CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

Semi Volatile Organic Compounds

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	TP 118	WS 103	WS 105	WS 107	WS 108	WS 110
			Depth (m)	0.70	0.30	0.30	0.50	0.40	0.60
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	20/05/2011	16/05/2011	16/05/2011	17/05/2011	17/05/2011	17/05/2011
			Date Received	21/05/2011	21/05/2011	21/05/2011	21/05/2011	21/05/2011	21/05/2011
			SDG Ref	110523-40	110523-40	110523-40	110523-40	110523-40	110523-40
			Lab Sample No.(s)	3515883	3515891	3515895	3515899	3515901	3515903
			AGS Reference						
2,4-Dimethylphenol	<100 µg/kg	TM157		<100	<100	<100	<100	<1000	<100
2,4-Dichlorophenol	<100 µg/kg	TM157		<100	<100	<100	<100	<1000	<100
2,4,6-Trichlorophenol	<100 µg/kg	TM157		<100	<100	<100	<100	<1000	<100
2,4,5-Trichlorophenol	<100 µg/kg	TM157		<100	<100	<100	<100	<1000	<100
1,4-Dichlorobenzene	<100 µg/kg	TM157		<100	<100	<100	<100	<1000	<100
1,3-Dichlorobenzene	<100 µg/kg	TM157		<100	<100	<100	<100	<1000	<100
1,2-Dichlorobenzene	<100 µg/kg	TM157		<100	<100	<100	<100	<1000	<100
2-Chloronaphthalene	<100 µg/kg	TM157		<100	<100	<100	<100	<1000	<100
2-Methylnaphthalene	<100 µg/kg	TM157		<100	124	126	578	3910	<100
Acenaphthylene	<100 µg/kg	TM157		<100	<100	<100	<100	<1000	<100
Acenaphthene	<100 µg/kg	TM157		<100	<100	<100	498	8450	<100
Anthracene	<100 µg/kg	TM157		<100	146	<100	951	10400	<100
Benzo(a)anthracene	<100 µg/kg	TM157		215	372	<100	1770	20300	<100
Benzo(b)fluoranthene	<100 µg/kg	TM157		205	307	<100	1300	13900	<100
Benzo(k)fluoranthene	<100 µg/kg	TM157		181	288	<100	1450	14100	<100
Benzo(a)pyrene	<100 µg/kg	TM157		229	375	<100	1710	19400	<100
Benzo(g,h,i)perylene	<100 µg/kg	TM157		142	242	<100	751	9900	<100
Chrysene	<100 µg/kg	TM157		247	392	<100	1950	20500	<100
Fluoranthene	<100 µg/kg	TM157		386	765	<100	4310	47100	<100
Fluorene	<100 µg/kg	TM157		<100	<100	<100	472	5920	<100
Indeno(1,2,3-cd)pyrene	<100 µg/kg	TM157		119	204	<100	705	8860	<100
Phenanthrene	<100 µg/kg	TM157		286	637	147	4650	49000	131
Pyrene	<100 µg/kg	TM157		361	663	<100	3780	40200	<100
Naphthalene	<100 µg/kg	TM157		<100	159	<100	1110	7060	<100
Dibenzo(a,h)anthracene	<100 µg/kg	TM157		<100	<100	<100	163	2030	<100

CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	TP 104	TP 105	TP 107	TP 110	TP 111	TP 111
			Depth (m)	0.50	0.30	0.70	1.00	0.70	1.20
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	17/05/2011	18/05/2011	18/05/2011	18/05/2011	18/05/2011	18/05/2011
			Date Received	21/05/2011	21/05/2011	21/05/2011	21/05/2011	21/05/2011	21/05/2011
			SDG Ref	110523-40	110523-40	110523-40	110523-40	110523-40	110523-40
			Lab Sample No.(s)	3515852	3515853	3515860	3515863	3515866	3515869
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		29	31	66	52	17	45
GRO >C5-C12	<44 µg/kg	TM089		49.5	<44	<44	<44	<44	<44
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089		<5 #	<5 #	<5 #	<5 #	<5 #	<5 #
Benzene	<10 µg/kg	TM089		<10 M	<10 M	<10 M	<10 M	<10 M	<10 M
Toluene	<2 µg/kg	TM089		<2 M	2.34 M	6.72 M	3.81 M	3.33 M	4.64 M
Ethylbenzene	<3 µg/kg	TM089		4.22 M	<3 M	20.2 M	7.62 M	7.77 M	16.2 M
m,p-Xylene	<6 µg/kg	TM089		8.43 M	<6 M	8.96 M	<6 M	<6 M	8.12 M
o-Xylene	<3 µg/kg	TM089		<3 M	<3 M	4.48 M	<3 M	<3 M	<3 M
sum of detected mpo xylene by GC	µg/kg	TM089		8.43	none detected	13.4	none detected	none detected	8.12
sum of detected BTEX by GC	µg/kg	TM089		12.7	2.34	40.3	11.4	11.1	29
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	<10	<10	<10	<10	<10
Aliphatics >C6-C8	<10 µg/kg	TM089		14.8	<10	<10	<10	<10	<10
Aliphatics >C8-C10	<10 µg/kg	TM089		<10	<10	<10	<10	<10	<10
Aliphatics >C10-C12	<10 µg/kg	TM089		<10	<10	<10	<10	<10	<10
Aliphatics >C12-C16	<100 µg/kg	TM173		79300	33800	6260	10100	36900	14300
Aliphatics >C16-C21	<100 µg/kg	TM173		81900	48600	5310	16500	32400	15100
Aliphatics >C21-C35	<100 µg/kg	TM173		99300	240000	25800	49400	48400	41400
Aliphatics >C35-C44	<100 µg/kg	TM173		8330	36300	2380	4870	4850	4760
Total Aliphatics >C12-C44	<100 µg/kg	TM173		269000	359000	39700	80800	123000	75500
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10	<10	<10	<10
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	<10	<10	<10	<10
Aromatics >EC8-EC10	<10 µg/kg	TM089		19	<10	32.5	12.7	14.4	27.8
Aromatics >EC10-EC12	<10 µg/kg	TM089		<10	<10	<10	<10	<10	<10
Aromatics >EC12-EC16	<100 µg/kg	TM173		44800	25700	6970	25800	29900	9750
Aromatics >EC16-EC21	<100 µg/kg	TM173		54200	32200	7140	18400	39200	21800
Aromatics >EC21-EC35	<100 µg/kg	TM173		118000	151000	25000	48400	67100	57900
Aromatics >EC35-EC44	<100 µg/kg	TM173		38900	44100	7340	11600	9710	16500
Aromatics >EC40-EC44	<100 µg/kg	TM173		17900	15600	2990	4140	2530	6120
Total Aromatics >EC12-EC44	<100 µg/kg	TM173		256000	253000	46400	104000	146000	106000
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173		525000	612000	86200	185000	268000	182000
Total Aliphatics >C5-35	<100 µg/kg	TM173		261000	323000	37400	75900	118000	70800
Total Aromatics >C5-35	<100 µg/kg	TM173		217000	209000	39100	92600	136000	89500
Total Aliphatics & Aromatics >C5-35	<100 µg/kg	TM173		477000	531000	76500	169000	254000	160000

CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

TPH CWG (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	TP 115	WS 103	WS 105	WS 108		
			Depth (m)	0.30	0.30	0.30	0.40		
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
			Date Sampled	19/05/2011	16/05/2011	16/05/2011	17/05/2011		
			Date Received	21/05/2011	21/05/2011	21/05/2011	21/05/2011		
			SDG Ref	110523-40	110523-40	110523-40	110523-40		
			Lab Sample No.(s)	3515878	3515891	3515895	3515901		
			AGS Reference						
GRO Surrogate % recovery**	%	TM089		33	69	56	47		
GRO >C5-C12	<44 µg/kg	TM089		<44	48.3	828	189		
Methyl tertiary butyl ether (MTBE)	<5 µg/kg	TM089		<5 #	<5 #	<5 #	<5 #		
Benzene	<10 µg/kg	TM089		<10 M	<10 M	<10 M	<10 M		
Toluene	<2 µg/kg	TM089		<2 M	5.49 M	5.6 M	13.5 M		
Ethylbenzene	<3 µg/kg	TM089		<3 M	9.88 M	4.48 M	7.38 M		
m,p-Xylene	<6 µg/kg	TM089		<6 M	6.59 M	10.1 M	9.84 M		
o-Xylene	<3 µg/kg	TM089		<3 M	<3 M	5.6 M	4.92 M		
m,p,o-Xylene	µg/kg	TM089				15.7	14.8		
sum of detected mpo xylene by GC	µg/kg	TM089		none detected	6.59				
BTEX, Total	µg/kg	TM089				25.8	35.7		
sum of detected BTEX by GC	µg/kg	TM089		none detected	22				
Aliphatics >C5-C6	<10 µg/kg	TM089		<10	<10	12.3	<10		
Aliphatics >C6-C8	<10 µg/kg	TM089		<10	<10	52.6	19.7		
Aliphatics >C8-C10	<10 µg/kg	TM089		<10	<10	113	25.8		
Aliphatics >C10-C12	<10 µg/kg	TM089		<10	11	328	48		
Aliphatics >C12-C16	<100 µg/kg	TM173		31600	7510	11900	9170		
Aliphatics >C16-C21	<100 µg/kg	TM173		60200	9600	24100	14100		
Aliphatics >C21-C35	<100 µg/kg	TM173		77200	33600	87500	115000		
Aliphatics >C35-C44	<100 µg/kg	TM173		14200	4020	10900	25300		
Total Aliphatics >C12-C44	<100 µg/kg	TM173		183000	54700	134000	164000		
Aromatics >EC5-EC7	<10 µg/kg	TM089		<10	<10	<10	<10		
Aromatics >EC7-EC8	<10 µg/kg	TM089		<10	<10	<10	13.5		
Aromatics >EC8-EC10	<10 µg/kg	TM089		<10	20.9	96.3	39.4		
Aromatics >EC10-EC12	<10 µg/kg	TM089		<10	<10	218	32		
Aromatics >EC12-EC16	<100 µg/kg	TM173		36200	8430	6670	58000		
Aromatics >EC16-EC21	<100 µg/kg	TM173		52900	11300	13400	247000		
Aromatics >EC21-EC35	<100 µg/kg	TM173		88500	33100	44900	517000		
Aromatics >EC35-EC44	<100 µg/kg	TM173		26700	8560	7270	125000		
Aromatics >EC40-EC44	<100 µg/kg	TM173		9820	2670	1440	36400		
Total Aromatics >EC12-EC44	<100 µg/kg	TM173		204000	61400	72200	947000		
Total Aliphatics & Aromatics >C5-C44	<100 µg/kg	TM173		388000	116000	207000	1110000		
Total Aliphatics >C5-35	<100 µg/kg	TM173		169000	50700	124000	139000		
Total Aromatics >C5-35	<100 µg/kg	TM173		178000	52900	65300	822000		
Total Aliphatics & Aromatics >C5-35	<100 µg/kg	TM173		347000	104000	189000	961000		

CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	TP 104	TP 105	TP 107	TP 110	TP 111	TP 111
			Depth (m)	0.50	0.30	0.70	1.00	0.70	1.20
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	17/05/2011	18/05/2011	18/05/2011	18/05/2011	18/05/2011	18/05/2011
			Date Received	21/05/2011	21/05/2011	21/05/2011	21/05/2011	21/05/2011	21/05/2011
			SDG Ref	110523-40	110523-40	110523-40	110523-40	110523-40	110523-40
			Lab Sample No.(s)	3515852	3515853	3515860	3515863	3515866	3515869
			AGS Reference						
Dibromofluoromethane**	%	TM116		101	84.8	101	101	104 §	104 §
Toluene-d8**	%	TM116		93.5	109	100	92.6	98.8 §	99.9 §
4-Bromofluorobenzene**	%	TM116		133	119	116	103	127 §	110 §
Dichlorodifluoromethane	<4 µg/kg	TM116		<4 M	<4 M	<4 M	<4 M	<80 §	<80 §
Chloromethane	<7 µg/kg	TM116		<7 #	<7 #	<7 #	<7 #	<140 §	<140 §
Vinyl Chloride	<10 µg/kg	TM116		<10 #	<10 #	<10 #	<10 #	<200 §	<200 §
Bromomethane	<13 µg/kg	TM116		<13 M	<13 M	<13 M	<13 M	<260 §	<260 §
Chloroethane	<14 µg/kg	TM116		<14 M	<14 M	<14 M	<14 M	<280 §	<280 §
Trichlorofluorormethane	<6 µg/kg	TM116		<6 M	<6 M	<6 M	<6 M	<120 §	<120 §
1.1-Dichloroethene	<10 µg/kg	TM116		<10 #	<10 #	<10 #	<10 #	<200 §	<200 §
Carbon Disulphide	<7 µg/kg	TM116		<7 M	<7 M	<7 M	<7 M	<140 §	<140 §
Dichloromethane	<10 µg/kg	TM116		11.1 #	<10 #	<10 #	<10 #	<200 §	<200 §
Methyl Tertiary Butyl Ether	<11 µg/kg	TM116		<11 M	<11 M	<11 M	<11 M	<220 §	<220 §
trans-1-2-Dichloroethene	<11 µg/kg	TM116		<11 M	<11 M	<11 M	<11 M	<220 §	<220 §
1.1-Dichloroethane	<8 µg/kg	TM116		<8 M	<8 M	<8 M	<8 M	<160 §	<160 §
cis-1-2-Dichloroethene	<5 µg/kg	TM116		<5 M	<5 M	<5 M	<5 M	<100 §	<100 §
2.2-Dichloropropane	<12 µg/kg	TM116		<12 M	<12 M	<12 M	<12 M	<240 §	<240 §
Bromochloromethane	<14 µg/kg	TM116		<14 M	<14 M	<14 M	<14 M	<280 §	<280 §
Chloroform	<8 µg/kg	TM116		<8 M	<8 M	<8 M	<8 M	<160 §	<160 §
1.1.1-Trichloroethane	<7 µg/kg	TM116		<7 M	<7 M	<7 M	<7 M	<140 §	<140 §
1.1-Dichloropropene	<11 µg/kg	TM116		<11 M	<11 M	<11 M	<11 M	<220 §	<220 §
Carbontetrachloride	<14 µg/kg	TM116		<14 M	<14 M	<14 M	<14 M	<280 §	<280 §
1.2-Dichloroethane	<5 µg/kg	TM116		<5 M	<5 M	<5 M	<5 M	<100 §	<100 §
Benzene	<9 µg/kg	TM116		<9 M	<9 M	<9 M	<9 M	<180 §	<180 §
Trichloroethene	<9 µg/kg	TM116		<9 M	<9 M	<9 M	<9 M	<180 §	<180 §
1.2-Dichloropropane	<12 µg/kg	TM116		<12 M	<12 M	<12 M	<12 M	<240 §	<240 §
Dibromomethane	<9 µg/kg	TM116		<9 M	<9 M	<9 M	<9 M	<180 §	<180 §
Bromodichloromethane	<7 µg/kg	TM116		<7 M	<7 M	<7 M	<7 M	<140 §	<140 §
cis-1-3-Dichloropropene	<14 µg/kg	TM116		<14 M	<14 M	<14 M	<14 M	<280 §	<280 §
Toluene	<5 µg/kg	TM116		19 M	13.2 M	9.07 M	15 M	<100 §	<100 §
trans-1-3-Dichloropropene	<14 µg/kg	TM116		<14	<14	<14	<14	<280 §	<280 §
1.1.2-Trichloroethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M	<200 §	<200 §
1.3-Dichloropropane	<7 µg/kg	TM116		<7 #	<7 #	<7 #	12.3 #	<140 §	<140 §
Tetrachloroethene	<5 µg/kg	TM116		79.9 M	12.5 M	<5 M	12.6 M	<100 §	<100 §
Dibromochloromethane	<13 µg/kg	TM116		<13 M	<13 M	<13 M	<13 M	<260 §	<260 §

CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	mCERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	TP 104	TP 105	TP 107	TP 110	TP 111	TP 111
			Depth (m)	0.50	0.30	0.70	1.00	0.70	1.20
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid
			Date Sampled	17/05/2011	18/05/2011	18/05/2011	18/05/2011	18/05/2011	18/05/2011
			Date Received	21/05/2011	21/05/2011	21/05/2011	21/05/2011	21/05/2011	21/05/2011
			SDG Ref	110523-40	110523-40	110523-40	110523-40	110523-40	110523-40
			Lab Sample No.(s)	3515852	3515853	3515860	3515863	3515866	3515869
			AGS Reference						
1.2-Dibromoethane	<12 µg/kg	TM116		<12 M	<12 M	<12 M	<12 M	<240 §	<240 §
Chlorobenzene	<5 µg/kg	TM116		<5 M	<5 M	<5 M	10.6 M	<100 §	<100 §
1.1.1.2-Tetrachloroethane	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M	<200 §	<200 §
Ethylbenzene	<4 µg/kg	TM116		12.1 M	5.83 M	28.4 M	22.2 M	<80 §	<80 §
p/m-Xylene	<14 µg/kg	TM116		33.2 #	<14 #	<14 #	28 #	<280 §	<280 §
o-Xylene	<10 µg/kg	TM116		17.1 M	<10 M	<10 M	<10 M	<200 §	<200 §
Styrene	<10 µg/kg	TM116		<10 M	<10 M	20.7 M	13.8 M	<200 §	<200 §
Bromoform	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M	<200 §	<200 §
Isopropylbenzene	<5 µg/kg	TM116		<5 M	<5 M	<5 M	7.59 M	<100 §	<100 §
1.1.2.2-Tetrachloroethane	<10 µg/kg	TM116		<10 #	<10 #	<10 #	<10 #	<200 §	<200 §
1.2.3-Trichloropropane	<17 µg/kg	TM116		<17 M	<17 M	<17 M	<17 M	<340 §	<340 §
Bromobenzene	<10 µg/kg	TM116		<10 M	<10 M	<10 M	<10 M	<200 §	<200 §
Propylbenzene	<11 µg/kg	TM116		<11 M	<11 M	<11 M	<11 M	<220 §	<220 §
2-Chlorotoluene	<9 µg/kg	TM116		<9 M	<9 M	<9 M	<9 M	<180 §	<180 §
1.3.5-Trimethylbenzene	<8 µg/kg	TM116		<8 #	<8 #	<8 #	<8 #	<160 §	<160 §
4-Chlorotoluene	<12 µg/kg	TM116		<12 M	<12 M	<12 M	<12 M	<240 §	<240 §
tert-Butylbenzene	<12 µg/kg	TM116		<12 #	<12 #	<12 #	<12 #	<240 §	<240 §
1.2.4-Trimethylbenzene	<9 µg/kg	TM116		<9 #	<9 #	<9 #	<9 #	<180 §	<180 §
sec-Butylbenzene	<10 µg/kg	TM116		<10 M	<10 M	<10 M	14.9 M	<200 §	<200 §
4-Isopropyltoluene	<11 µg/kg	TM116		<11 M	<11 M	<11 M	<11 M	<220 §	<220 §
1.3-Dichlorobenzene	<6 µg/kg	TM116		<6 M	<6 M	<6 M	<6 M	<120 §	<120 §
1.4-Dichlorobenzene	<5 µg/kg	TM116		<5 M	<5 M	<5 M	<5 M	<100 §	<100 §
n-Butylbenzene	<10 µg/kg	TM116		<10 M	<10 M	<10 M	14.1 M	<200 §	<200 §
1.2-Dichlorobenzene	<12 µg/kg	TM116		<12 M	<12 M	<12 M	<12 M	<240 §	<240 §
1.2-Dibromo-3-chloropropane	<14 µg/kg	TM116		<14 M	<14 M	<14 M	<14 M	<280 §	<280 §
Tert-amyl methyl ether	<15 µg/kg	TM116		<15	<15	<15	<15	<300 §	<300 §
1.2.4-Trichlorobenzene	<6 µg/kg	TM116		<6 #	<6 #	<6 #	<6 #	<120 §	<120 §
Hexachlorobutadiene	<12 µg/kg	TM116		<12	<12	<12	<12	<240 §	<240 §
Naphthalene	<13 µg/kg	TM116		<13 M	<13 M	<13 M	81.6 M	<260 §	<260 §
1.2.3-Trichlorobenzene	<6 µg/kg	TM116		<6 M	<6 M	<6 M	<6 M	<120 §	<120 §

CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	TP 115	WS 103	WS 105	WS 108		
			Depth (m)	0.30	0.30	0.30	0.40		
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
			Date Sampled	19/05/2011	16/05/2011	16/05/2011	17/05/2011		
			Date Received	21/05/2011	21/05/2011	21/05/2011	21/05/2011		
			SDG Ref	110523-40	110523-40	110523-40	110523-40		
			Lab Sample No.(s)	3515878	3515891	3515895	3515901		
			AGS Reference						
Dibromofluoromethane**	%	TM116		108 §	93	95.5	101		
Toluene-d8**	%	TM116		99.8 §	105	98.1	106		
4-Bromofluorobenzene**	%	TM116		107 §	108	151	127		
Dichlorodifluoromethane	<4 µg/kg	TM116		<80 §	<4 M	<4 M	<8 M		
Chloromethane	<7 µg/kg	TM116		<140 §	<7 #	<7 #	<14 #		
Vinyl Chloride	<10 µg/kg	TM116		<200 §	<10 #	<10 #	<20 #		
Bromomethane	<13 µg/kg	TM116		<260 §	<13 M	<13 M	<26 M		
Chloroethane	<14 µg/kg	TM116		<280 §	<14 M	<14 M	<28 M		
Trichlorofluorormethane	<6 µg/kg	TM116		<120 §	<6 M	<6 M	<12 M		
1.1-Dichloroethene	<10 µg/kg	TM116		<200 §	<10 #	<10 #	<20 #		
Carbon Disulphide	<7 µg/kg	TM116		<140 §	<7 M	26.5 M	56 M		
Dichloromethane	<10 µg/kg	TM116		<200 §	<10 #	<10 #	<20 #		
Methyl Tertiary Butyl Ether	<11 µg/kg	TM116		<220 §	<11 M	<11 M	<22 M		
trans-1-2-Dichloroethene	<11 µg/kg	TM116		<220 §	<11 M	<11 M	<22 M		
1.1-Dichloroethane	<8 µg/kg	TM116		<160 §	<8 M	<8 M	<16 M		
cis-1-2-Dichloroethene	<5 µg/kg	TM116		<100 §	<5 M	<5 M	<10 M		
2.2-Dichloropropane	<12 µg/kg	TM116		<240 §	<12 M	<12 M	<24 M		
Bromochloromethane	<14 µg/kg	TM116		<280 §	<14 M	<14 M	<28 M		
Chloroform	<8 µg/kg	TM116		<160 §	<8 M	<8 M	<16 M		
1.1.1-Trichloroethane	<7 µg/kg	TM116		<140 §	<7 M	<7 M	<14 M		
1.1-Dichloropropene	<11 µg/kg	TM116		<220 §	<11 M	<11 M	<22 M		
Carbontetrachloride	<14 µg/kg	TM116		<280 §	<14 M	<14 M	<28 M		
1.2-Dichloroethane	<5 µg/kg	TM116		<100 §	<5 M	<5 M	<10 M		
Benzene	<9 µg/kg	TM116		<180 §	<9 M	<9 M	<18 M		
Trichloroethene	<9 µg/kg	TM116		<180 §	<9 M	<9 M	<18 M		
1.2-Dichloropropane	<12 µg/kg	TM116		<240 §	<12 M	<12 M	<24 M		
Dibromomethane	<9 µg/kg	TM116		<180 §	<9 M	<9 M	<18 M		
Bromodichloromethane	<7 µg/kg	TM116		<140 §	<7 M	<7 M	<14 M		
cis-1-3-Dichloropropene	<14 µg/kg	TM116		<280 §	<14 M	<14 M	<28 M		
Toluene	<5 µg/kg	TM116		<100 §	7.66 M	12.8 M	31.4 M		
trans-1-3-Dichloropropene	<14 µg/kg	TM116		<280 §	<14	<14	<28		
1.1.2-Trichloroethane	<10 µg/kg	TM116		<200 §	<10 M	<10 M	<20 M		
1.3-Dichloropropane	<7 µg/kg	TM116		<140 §	<7 #	<7 #	<14 #		
Tetrachloroethene	<5 µg/kg	TM116		<100 §	<5 M	<5 M	<10 M		
Dibromochloromethane	<13 µg/kg	TM116		<260 §	<13 M	<13 M	<26 M		

CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

VOC MS (S)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	TP 115	WS 103	WS 105	WS 108		
			Depth (m)	0.30	0.30	0.30	0.40		
			Sample Type	Soil/Solid	Soil/Solid	Soil/Solid	Soil/Solid		
			Date Sampled	19/05/2011	16/05/2011	16/05/2011	17/05/2011		
			Date Received	21/05/2011	21/05/2011	21/05/2011	21/05/2011		
			SDG Ref	110523-40	110523-40	110523-40	110523-40		
			Lab Sample No.(s)	3515878	3515891	3515895	3515901		
			AGS Reference						
1.2-Dibromoethane	<12 µg/kg	TM116		<240 §	<12 M	<12 M	<24 M		
Chlorobenzene	<5 µg/kg	TM116		<100 §	<5 M	<5 M	<10 M		
1.1.1.2-Tetrachloroethane	<10 µg/kg	TM116		<200 §	<10 M	<10 M	<20 M		
Ethylbenzene	<4 µg/kg	TM116		<80 §	9.78 M	11.8 M	11.3 M		
p/m-Xylene	<14 µg/kg	TM116		<280 §	<14 #	17.7 #	<28 #		
o-Xylene	<10 µg/kg	TM116		<200 §	<10 M	<10 M	<20 M		
Styrene	<10 µg/kg	TM116		<200 §	<10 M	<10 M	<20 M		
Bromoform	<10 µg/kg	TM116		<200 §	<10 M	<10 M	<20 M		
Isopropylbenzene	<5 µg/kg	TM116		<100 §	<5 M	<5 M	<10 M		
1.1.2.2-Tetrachloroethane	<10 µg/kg	TM116		<200 §	<10 #	<10 #	<20 #		
1.2.3-Trichloropropane	<17 µg/kg	TM116		<340 §	<17 M	<17 M	<34 M		
Bromobenzene	<10 µg/kg	TM116		<200 §	<10 M	<10 M	<20 M		
Propylbenzene	<11 µg/kg	TM116		<220 §	<11 M	<11 M	<22 M		
2-Chlorotoluene	<9 µg/kg	TM116		<180 §	<9 M	<9 M	<18 M		
1.3.5-Trimethylbenzene	<8 µg/kg	TM116		<160 §	<8 #	<8 #	<16 #		
4-Chlorotoluene	<12 µg/kg	TM116		<240 §	<12 M	<12 M	<24 M		
tert-Butylbenzene	<12 µg/kg	TM116		<240 §	<12 #	<12 #	<24 #		
1.2.4-Trimethylbenzene	<9 µg/kg	TM116		<180 §	<9 #	21.8 #	<18 #		
sec-Butylbenzene	<10 µg/kg	TM116		<200 §	<10 M	<10 M	<20 M		
4-Isopropyltoluene	<11 µg/kg	TM116		<220 §	<11 M	<11 M	<22 M		
1.3-Dichlorobenzene	<6 µg/kg	TM116		<120 §	<6 M	<6 M	<12 M		
1.4-Dichlorobenzene	<5 µg/kg	TM116		<100 §	<5 M	<5 M	<10 M		
n-Butylbenzene	<10 µg/kg	TM116		<200 §	<10 M	<10 M	<20 M		
1.2-Dichlorobenzene	<12 µg/kg	TM116		<240 §	<12 M	<12 M	<24 M		
1.2-Dibromo-3-chloropropane	<14 µg/kg	TM116		<280 §	<14 M	<14 M	<28 M		
Tert-amyl methyl ether	<15 µg/kg	TM116		<300 §	<15	<15	<30		
1.2.4-Trichlorobenzene	<6 µg/kg	TM116		<120 §	<6 #	<6 #	<12 #		
Hexachlorobutadiene	<12 µg/kg	TM116		<240 §	<12	<12	<24		
Naphthalene	<13 µg/kg	TM116		<260 §	737 M	<13 M	564 M		
1.2.3-Trichlorobenzene	<6 µg/kg	TM116		<120 §	<6 M	<6 M	<12 M		

CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

Asbestos Identification

		Date of Analysis	Analysed By	Comments	Amosite (Brown) Asbestos	Chrysotile (White) Asbestos	Crocidolite (Blue) Asbestos	Fibrous Actinolite	Fibrous Anthophyllite	Fibrous Tremolite	Non-Asbestos Fibre
Customer Sample Ref. Depth (m) Sample Type Date Sampled Date Receieved SDG Original Sample Method Number	TP 103 NS Z 0.40 SOLID 17/05/2011 00:00:00 23/05/2011 11:03:10 110523-40 3,515,847 TM048	28/05/11	Tomasz Pawlikowski	cement	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Not Detected (#)	Detected

CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

CEN 10:1 STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	
Mass Sample taken (kg)	0.104	**Moisture Content Ratio (%)**	15.8
Mass of dry sample (kg)	0.175	**Dry Matter Content Ratio (%)**	86.4
Particle Size <4mm	>95%		

Case	
SDG	110523-40
Lab Sample Number(s)	3515843
Sampled Date	17-May-2011
Customer Sample Ref.	TP 101
Depth (m)	0.60

Solid Waste Analysis	**Result**			
Total Organic Carbon (%)	1.87	-	-	-
Loss on Ignition (%)	-	-	-	-
Sum of BTEX (mg/kg)	-	-	-	-
Sum of 7 PCBs (mg/kg)	-	-	-	-
Mineral Oil (mg/kg)	-	-	-	-
PAH Sum of 17 (mg/kg)	-	-	-	-
pH (pH Units)	8.13	-	-	-
ANC to pH 6 (mol/kg)	-	-	-	-
ANC to pH 4 (mol/kg)	-	-	-	-

Eluate Analysis	**C_2 Conc^n in 10:1 eluate (mg/l)**		**A_2 10:1 conc^n leached (mg/kg)**		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Arsenic	0.000431	<0.00012	0.00431	<0.0012	-	-	-
Barium	-	-	-	-	-	-	-
Cadmium	<0.0001	<0.0001	<0.001	<0.001	-	-	-
Chromium	0.00476	<0.00022	0.0476	<0.0022	-	-	-
Copper	0.00134	<0.00085	0.0134	<0.0085	-	-	-
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Molybdenum	-	-	-	-	-	-	-
Nickel	0.000827	<0.00015	0.00827	<0.0015	-	-	-
Lead	0.000401	<0.00002	0.00401	<0.0002	-	-	-
Antimony	-	-	-	-	-	-	-
Selenium	<0.00039	<0.00039	<0.0039	<0.0039	-	-	-
Zinc	0.00221	<0.00041	0.0221	<0.0041	-	-	-
Chloride	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-
Sulphate (soluble)	-	-	-	-	-	-	-
Total Dissolved Solids	-	-	-	-	-	-	-
Total Monohydric Phenols (W)	-	-	-	-	-	-	-
Dissolved Organic Carbon	-	-	-	-	-	-	-

Leach Test Information

Date Prepared	15-Jun-2011
pH (pH Units)	7.12
Conductivity (µS/cm)	101.00
Temperature (°C)	22.30
Volume Leachant (Litres)	0.886
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ALcontrol cannot be held responsible for any discrepancies with current legislation
Mcerts Certification does not apply to leachates

23/06/2011 17:33:37

CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

CEN 10:1 STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	
Mass Sample taken (kg)	0.104	**Moisture Content Ratio (%)**	15.8
Mass of dry sample (kg)	0.175	**Dry Matter Content Ratio (%)**	86.4
Particle Size <4mm	>95%		

Case	
SDG	110523-40
Lab Sample Number(s)	3515843
Sampled Date	17-May-2011
Customer Sample Ref.	TP 101
Depth (m)	0.60

Solid Waste Analysis	**Result**			
Total Organic Carbon (%)	1.87	-	-	-
Loss on Ignition (%)	-	-	-	-
Sum of BTEX (mg/kg)	-	-	-	-
Sum of 7 PCBs (mg/kg)	-	-	-	-
Mineral Oil (mg/kg)	-	-	-	-
PAH Sum of 17 (mg/kg)	-	-	-	-
pH (pH Units)	8.13	-	-	-
ANC to pH 6 (mol/kg)	-	-	-	-
ANC to pH 4 (mol/kg)	-	-	-	-

Eluate Analysis	**C_2 Conc^n in 10:1 eluate (mg/l)**		**A_2 10:1 conc^n leached (mg/kg)**		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
PAH Spec MS - Aqueous (W)							
Naphthalene by GCMS	<0.0001	<0.0001	<0.001	<0.001	-	-	-
Acenaphthene by GCMS	0.0000178	<0.000015	0.000178	<0.00015	-	-	-
Acenaphthylene by GCMS	<0.000011	<0.000011	<0.00011	<0.00011	-	-	-
Fluoranthene by GCMS	<0.000017	<0.000017	<0.00017	<0.00017	-	-	-
Anthracene by GCMS	<0.000015	<0.000015	<0.00015	<0.00015	-	-	-
Phenanthrene by GCMS	<0.000022	<0.000022	<0.00022	<0.00022	-	-	-
Fluorene by GCMS	<0.000014	<0.000014	<0.00014	<0.00014	-	-	-
Chrysene by GCMS	<0.000013	<0.000013	<0.00013	<0.00013	-	-	-
Pyrene by GCMS	<0.000015	<0.000015	<0.00015	<0.00015	-	-	-
Benz(a)anthracene by GCMS	<0.000017	<0.000017	<0.00017	<0.00017	-	-	-
Benzo(b)fluoranthene by GCMS	<0.000023	<0.000023	<0.00023	<0.00023	-	-	-
Benzo(k)fluoranthene by GCMS	<0.000027	<0.000027	<0.00027	<0.00027	-	-	-
Benzo(a)pyrene by GCMS	<0.000009	<0.000009	<0.00009	<0.00009	-	-	-
Dibenzo(ah)anthracene by GCMS	<0.000016	<0.000016	<0.00016	<0.00016	-	-	-
Benzo(ghi)perylene by GCMS	<0.000016	<0.000016	<0.00016	<0.00016	-	-	-
Indeno(123cd)pyrene by GCMS	<0.000014	<0.000014	<0.00014	<0.00014	-	-	-
PAH 16 EPA Total by GCMS	0.0000178	<0	0.000178	<0	-	-	-

Leach Test Information

Date Prepared	15-Jun-2011
pH (pH Units)	7.12
Conductivity (µS/cm)	101.00
Temperature (°C)	22.30
Volume Leachant (Litres)	0.886
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ALcontrol cannot be held responsible for any discrepancies with current legislation
Mcerts Certification does not apply to leachates

23/06/2011 17:33:37

CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

CEN 10:1 STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	
Mass Sample taken (kg)	0.098	**Moisture Content Ratio (%)**	8.51
Mass of dry sample (kg)	0.175	**Dry Matter Content Ratio (%)**	92.2
Particle Size <4mm	>95%		

Case	
SDG	110523-40
Lab Sample Number(s)	3515852
Sampled Date	17-May-2011
Customer Sample Ref.	TP 104
Depth (m)	0.50

Solid Waste Analysis	**Result**			
Total Organic Carbon (%)	-	-	-	-
Loss on Ignition (%)	-	-	-	-
Sum of BTEX (mg/kg)	0.0127	-	-	-
Sum of 7 PCBs (mg/kg)	-	-	-	-
Mineral Oil (mg/kg)	-	-	-	-
PAH Sum of 17 (mg/kg)	-	-	-	-
pH (pH Units)	7.90	-	-	-
ANC to pH 6 (mol/kg)	-	-	-	-
ANC to pH 4 (mol/kg)	-	-	-	-

Eluate Analysis	**C_2 Conc^n in 10:1 eluate (mg/l)**		**A_2 10:1 conc^n leached (mg/kg)**		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Arsenic	0.000608	<0.00012	0.00608	<0.0012	-	-	-
Barium	-	-	-	-	-	-	-
Cadmium	<0.0001	<0.0001	<0.001	<0.001	-	-	-
Chromium	0.00271	<0.00022	0.0271	<0.0022	-	-	-
Copper	0.00465	<0.00085	0.0465	<0.0085	-	-	-
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Molybdenum	-	-	-	-	-	-	-
Nickel	0.000684	<0.00015	0.00684	<0.0015	-	-	-
Lead	0.000599	<0.00002	0.00599	<0.0002	-	-	-
Antimony	-	-	-	-	-	-	-
Selenium	<0.00039	<0.00039	<0.0039	<0.0039	-	-	-
Zinc	0.00613	<0.00041	0.0613	<0.0041	-	-	-
Chloride	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-
Sulphate (soluble)	-	-	-	-	-	-	-
Total Dissolved Solids	-	-	-	-	-	-	-
Total Monohydric Phenols (W)	-	-	-	-	-	-	-
Dissolved Organic Carbon	-	-	-	-	-	-	-

Leach Test Information

Date Prepared	15-Jun-2011
pH (pH Units)	7.69
Conductivity (µS/cm)	78.90
Temperature (°C)	22.40
Volume Leachant (Litres)	0.892
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ALcontrol cannot be held responsible for any discrepancies with current legislation
Mcerts Certification does not apply to leachates
23/06/2011 17:33:37

CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

CEN 10:1 STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	
Mass Sample taken (kg)	0.098	**Moisture Content Ratio (%)**	8.51
Mass of dry sample (kg)	0.175	**Dry Matter Content Ratio (%)**	92.2
Particle Size <4mm	>95%		

Case	
SDG	110523-40
Lab Sample Number(s)	3515852
Sampled Date	17-May-2011
Customer Sample Ref.	TP 104
Depth (m)	0.50

Solid Waste Analysis	**Result**			
Total Organic Carbon (%)	-	-	-	-
Loss on Ignition (%)	-	-	-	-
Sum of BTEX (mg/kg)	0.0127	-	-	-
Sum of 7 PCBs (mg/kg)	-	-	-	-
Mineral Oil (mg/kg)	-	-	-	-
PAH Sum of 17 (mg/kg)	-	-	-	-
pH (pH Units)	7.90	-	-	-
ANC to pH 6 (mol/kg)	-	-	-	-
ANC to pH 4 (mol/kg)	-	-	-	-

Eluate Analysis	**C_2 Conc^n in 10:1 eluate (mg/l)**		**A_2 10:1 conc^n leached (mg/kg)**		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
PAH Spec MS - Aqueous (W)							
Naphthalene by GCMS	<0.0001	<0.0001	<0.001	<0.001	-	-	-
Acenaphthene by GCMS	<0.000015	<0.000015	<0.00015	<0.00015	-	-	-
Acenaphthylene by GCMS	<0.000011	<0.000011	<0.00011	<0.00011	-	-	-
Fluoranthene by GCMS	<0.000017	<0.000017	<0.00017	<0.00017	-	-	-
Anthracene by GCMS	<0.000015	<0.000015	<0.00015	<0.00015	-	-	-
Phenanthrene by GCMS	<0.000022	<0.000022	<0.00022	<0.00022	-	-	-
Fluorene by GCMS	<0.000014	<0.000014	<0.00014	<0.00014	-	-	-
Chrysene by GCMS	<0.000013	<0.000013	<0.00013	<0.00013	-	-	-
Pyrene by GCMS	<0.000015	<0.000015	<0.00015	<0.00015	-	-	-
Benz(a)anthracene by GCMS	<0.000017	<0.000017	<0.00017	<0.00017	-	-	-
Benzo(b)fluoranthene by GCMS	<0.000023	<0.000023	<0.00023	<0.00023	-	-	-
Benzo(k)fluoranthene by GCMS	<0.000027	<0.000027	<0.00027	<0.00027	-	-	-
Benzo(a)pyrene by GCMS	<0.000009	<0.000009	<0.00009	<0.00009	-	-	-
Dibenzo(ah)anthracene by GCMS	<0.000016	<0.000016	<0.00016	<0.00016	-	-	-
Benzo(ghi)perylene by GCMS	<0.000016	<0.000016	<0.00016	<0.00016	-	-	-
Indeno(123cd)pyrene by GCMS	<0.000014	<0.000014	<0.00014	<0.00014	-	-	-
PAH 16 EPA Total by GCMS	0	<0	0	<0	-	-	-

Leach Test Information

Date Prepared	15-Jun-2011
pH (pH Units)	7.69
Conductivity (µS/cm)	78.90
Temperature (°C)	22.40
Volume Leachant (Litres)	0.892
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ALcontrol cannot be held responsible for any discrepancies with current legislation
Mcerts Certification does not apply to leachates
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CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

CEN 10:1 STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	
Mass Sample taken (kg)	0.109	**Moisture Content Ratio (%)**	21.2
Mass of dry sample (kg)	0.175	**Dry Matter Content Ratio (%)**	82.5
Particle Size <4mm	>95%		

Case	
SDG	110523-40
Lab Sample Number(s)	3515869
Sampled Date	18-May-2011
Customer Sample Ref.	TP 111
Depth (m)	1.20

Solid Waste Analysis	**Result**			
Total Organic Carbon (%)	-	-	-	-
Loss on Ignition (%)	-	-	-	-
Sum of BTEX (mg/kg)	0.029	-	-	-
Sum of 7 PCBs (mg/kg)	-	-	-	-
Mineral Oil (mg/kg)	-	-	-	-
PAH Sum of 17 (mg/kg)	-	-	-	-
pH (pH Units)	7.76	-	-	-
ANC to pH 6 (mol/kg)	-	-	-	-
ANC to pH 4 (mol/kg)	-	-	-	-

Eluate Analysis	**C_2 Conc^n in 10:1 eluate (mg/l)**		**A_2 10:1 conc^n leached (mg/kg)**		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Arsenic	0.0044	<0.00012	0.044	<0.0012	-	-	-
Barium	-	-	-	-	-	-	-
Cadmium	<0.0001	<0.0001	<0.001	<0.001	-	-	-
Chromium	0.00185	<0.00022	0.0185	<0.0022	-	-	-
Copper	0.00326	<0.00085	0.0326	<0.0085	-	-	-
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Molybdenum	-	-	-	-	-	-	-
Nickel	0.00147	<0.00015	0.0147	<0.0015	-	-	-
Lead	0.000223	<0.00002	0.00223	<0.0002	-	-	-
Antimony	-	-	-	-	-	-	-
Selenium	0.000657	<0.00039	0.00657	<0.0039	-	-	-
Zinc	0.00109	<0.00041	0.0109	<0.0041	-	-	-
Chloride	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-
Sulphate (soluble)	57.2	<2	572	<20	-	-	-
Total Dissolved Solids	-	-	-	-	-	-	-
Total Monohydric Phenols (W)	0	<0	0	<0	-	-	-
Dissolved Organic Carbon	-	-	-	-	-	-	-

Leach Test Information

Date Prepared	15-Jun-2011
pH (pH Units)	7.76
Conductivity (µS/cm)	248.00
Temperature (°C)	22.30
Volume Leachant (Litres)	0.881
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ALcontrol cannot be held responsible for any discrepancies with current legislation
Mcerts Certification does not apply to leachates
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CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

CEN 10:1 STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	
Mass Sample taken (kg)	0.109	**Moisture Content Ratio (%)**	21.2
Mass of dry sample (kg)	0.175	**Dry Matter Content Ratio (%)**	82.5
Particle Size <4mm	>95%		

Case	
SDG	110523-40
Lab Sample Number(s)	3515869
Sampled Date	18-May-2011
Customer Sample Ref.	TP 111
Depth (m)	1.20

Solid Waste Analysis	**Result**			
Total Organic Carbon (%)	-	-	-	-
Loss on Ignition (%)	-	-	-	-
Sum of BTEX (mg/kg)	0.029	-	-	-
Sum of 7 PCBs (mg/kg)	-	-	-	-
Mineral Oil (mg/kg)	-	-	-	-
PAH Sum of 17 (mg/kg)	-	-	-	-
pH (pH Units)	7.76	-	-	-
ANC to pH 6 (mol/kg)	-	-	-	-
ANC to pH 4 (mol/kg)	-	-	-	-

Eluate Analysis	**C_2 Conc^n in 10:1 eluate (mg/l)**		**A_2 10:1 conc^n leached (mg/kg)**		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Hexavalent Chromium	<0.03	<0.03	<0.3	<0.3	-	-	-
pH	7.8	<0.001	78	<0.01	-	-	-
Sulphide	<0.01	<0.01	<0.1	<0.1	-	-	-
Total Cyanide (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Free Cyanide (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Phenol by HPLC (W)	<0.002	<0.002	<0.02	<0.02	-	-	-
Thiocyanate (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Boron	0.0254	<0.0094	0.254	<0.094	-	-	-
PAH Spec MS - Aqueous (W)							
Naphthalene by GCMS	<0.0001	<0.0001	<0.001	<0.001	-	-	-
Acenaphthene by GCMS	<0.000015	<0.000015	<0.00015	<0.00015	-	-	-
Acenaphthylene by GCMS	<0.000011	<0.000011	<0.00011	<0.00011	-	-	-
Fluoranthene by GCMS	<0.000017	<0.000017	<0.00017	<0.00017	-	-	-
Anthracene by GCMS	<0.000015	<0.000015	<0.00015	<0.00015	-	-	-
Phenanthrene by GCMS	<0.000022	<0.000022	<0.00022	<0.00022	-	-	-
Fluorene by GCMS	<0.000014	<0.000014	<0.00014	<0.00014	-	-	-
Chrysene by GCMS	<0.000013	<0.000013	<0.00013	<0.00013	-	-	-
Pyrene by GCMS	<0.000015	<0.000015	<0.00015	<0.00015	-	-	-
Benz(a)anthracene by GCMS	<0.000017	<0.000017	<0.00017	<0.00017	-	-	-
Benzo(b)fluoranthene by GCMS	<0.000023	<0.000023	<0.00023	<0.00023	-	-	-
Benzo(k)fluoranthene by GCMS	<0.000027	<0.000027	<0.00027	<0.00027	-	-	-
Benzo(a)pyrene by GCMS	<0.000009	<0.000009	<0.00009	<0.00009	-	-	-
Dibenzo(ah)anthracene by GCMS	<0.000016	<0.000016	<0.00016	<0.00016	-	-	-

Leach Test Information

Date Prepared	15-Jun-2011
pH (pH Units)	7.76
Conductivity (µS/cm)	248.00
Temperature (°C)	22.30
Volume Leachant (Litres)	0.881
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ALcontrol cannot be held responsible for any discrepancies with current legislation
Mcerts Certification does not apply to leachates
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CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

CEN 10:1 STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	
Mass Sample taken (kg)	0.109	**Moisture Content Ratio (%)**	21.2
Mass of dry sample (kg)	0.175	**Dry Matter Content Ratio (%)**	82.5
Particle Size <4mm	>95%		

Case	
SDG	110523-40
Lab Sample Number(s)	3515869
Sampled Date	18-May-2011
Customer Sample Ref.	TP 111
Depth (m)	1.20

Solid Waste Analysis	**Result**			
Total Organic Carbon (%)	-	-	-	-
Loss on Ignition (%)	-	-	-	-
Sum of BTEX (mg/kg)	0.029	-	-	-
Sum of 7 PCBs (mg/kg)	-	-	-	-
Mineral Oil (mg/kg)	-	-	-	-
PAH Sum of 17 (mg/kg)	-	-	-	-
pH (pH Units)	7.76	-	-	-
ANC to pH 6 (mol/kg)	-	-	-	-
ANC to pH 4 (mol/kg)	-	-	-	-

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
PAH Spec MS - Aqueous (W)							
Benzo(ghi)perylene by GCMS	<0.000016	<0.000016	<0.00016	<0.00016	-	-	-
Indeno(123cd)pyrene by GCMS	<0.000014	<0.000014	<0.00014	<0.00014	-	-	-
PAH 16 EPA Total by GCMS	0	<0	0	<0	-	-	-
TPH CWG (W)							
Surrogate Recovery	-	<0	-	<0	-	-	-
GRO TOT (C5-C12)	<0.05	<0.05	<0.5	<0.5	-	-	-
Aliphatics C5-C6	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C6-C8	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C8-C10	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C10-C12	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C12-C16	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C16-C21	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C21-C35	<0.01	<0.01	<0.1	<0.1	-	-	-
Total Aliphatics >C12-C35	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics C6-C7	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >C7-C8	<0.01	<0.01	<0.1	<0.1	-	-	-
MTBE GC-FID	<0.003	<0.003	<0.03	<0.03	-	-	-
Aromatics >EC8 -EC10	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC10-EC12	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC12-EC16	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC16-EC21	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC21-EC35	<0.01	<0.01	<0.1	<0.1	-	-	-
Total Aromatics >EC12-EC35	<0.01	<0.01	<0.1	<0.1	-	-	-

Leach Test Information

Date Prepared	15-Jun-2011
pH (pH Units)	7.76
Conductivity (µS/cm)	248.00
Temperature (°C)	22.30
Volume Leachant (Litres)	0.881
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ALcontrol cannot be held responsible for any discrepancies with current legislation
Mcerts Certification does not apply to leachates
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CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

CEN 10:1 STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	
Mass Sample taken (kg)	0.109	**Moisture Content Ratio (%)**	21.2
Mass of dry sample (kg)	0.175	**Dry Matter Content Ratio (%)**	82.5
Particle Size <4mm	>95%		

Case	
SDG	110523-40
Lab Sample Number(s)	3515869
Sampled Date	18-May-2011
Customer Sample Ref.	TP 111
Depth (m)	1.20

Solid Waste Analysis	**Result**			
Total Organic Carbon (%)	-	-	-	-
Loss on Ignition (%)	-	-	-	-
Sum of BTEX (mg/kg)	0.029	-	-	-
Sum of 7 PCBs (mg/kg)	-	-	-	-
Mineral Oil (mg/kg)	-	-	-	-
PAH Sum of 17 (mg/kg)	-	-	-	-
pH (pH Units)	7.76	-	-	-
ANC to pH 6 (mol/kg)	-	-	-	-
ANC to pH 4 (mol/kg)	-	-	-	-

Eluate Analysis	**C_2 Conc^n in 10:1 eluate (mg/l)**		**A_2 10:1 conc^n leached (mg/kg)**		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
TPH CWG (W)							
Benzene by GC	<0.007	<0.007	<0.07	<0.07	-	-	-
Toluene by GC	<0.004	<0.004	<0.04	<0.04	-	-	-
Ethylbenzene by GC	<0.005	<0.005	<0.05	<0.05	-	-	-
m & p Xylene by GC	<0.008	<0.008	<0.08	<0.08	-	-	-
o Xylene by GC	<0.003	<0.003	<0.03	<0.03	-	-	-
Sum m&p and o Xylene by GC	0	<0	0	<0	-	-	-
Sum of BTEX by GC	0	<0	0	<0	-	-	-
TPH (Total Aliphatics + Total Aromatics) >C5-C35	<0.01	<0.01	<0.1	<0.1	-	-	-

Leach Test Information

Date Prepared	15-Jun-2011
pH (pH Units)	7.76
Conductivity (µS/cm)	248.00
Temperature (°C)	22.30
Volume Leachant (Litres)	0.881
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
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CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

CEN 10:1 STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	
Mass Sample taken (kg)	0.103	**Moisture Content Ratio (%)**	14.3
Mass of dry sample (kg)	0.175	**Dry Matter Content Ratio (%)**	87.5
Particle Size <4mm	>95%		

Case	
SDG	110523-40
Lab Sample Number(s)	3515878
Sampled Date	19-May-2011
Customer Sample Ref.	TP 115
Depth (m)	0.30

Solid Waste Analysis	**Result**			
Total Organic Carbon (%)	-	-	-	-
Loss on Ignition (%)	-	-	-	-
Sum of BTEX (mg/kg)	none detected	-	-	-
Sum of 7 PCBs (mg/kg)	-	-	-	-
Mineral Oil (mg/kg)	-	-	-	-
PAH Sum of 17 (mg/kg)	-	-	-	-
pH (pH Units)	7.94	-	-	-
ANC to pH 6 (mol/kg)	-	-	-	-
ANC to pH 4 (mol/kg)	-	-	-	-

Eluate Analysis	**C_2 Conc^n in 10:1 eluate (mg/l)**		**A_2 10:1 conc^n leached (mg/kg)**		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Arsenic	0.00334	<0.00012	0.0334	<0.0012	-	-	-
Barium	-	-	-	-	-	-	-
Cadmium	<0.0001	<0.0001	<0.001	<0.001	-	-	-
Chromium	0.00333	<0.00022	0.0333	<0.0022	-	-	-
Copper	0.00424	<0.00085	0.0424	<0.0085	-	-	-
Mercury Dissolved (CVAF)	0.0000142	<0.00001	0.000142	<0.0001	-	-	-
Molybdenum	-	-	-	-	-	-	-
Nickel	0.00109	<0.00015	0.0109	<0.0015	-	-	-
Lead	0.000323	<0.00002	0.00323	<0.0002	-	-	-
Antimony	-	-	-	-	-	-	-
Selenium	0.000493	<0.00039	0.00493	<0.0039	-	-	-
Zinc	0.00125	<0.00041	0.0125	<0.0041	-	-	-
Chloride	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-
Sulphate (soluble)	58.1	<2	581	<20	-	-	-
Total Dissolved Solids	-	-	-	-	-	-	-
Total Monohydric Phenols (W)	0	<0	0	<0	-	-	-
Dissolved Organic Carbon	-	-	-	-	-	-	-

Leach Test Information

Date Prepared	15-Jun-2011
pH (pH Units)	7.45
Conductivity (µS/cm)	220.00
Temperature (°C)	22.30
Volume Leachant (Litres)	0.887
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
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Mcerts Certification does not apply to leachates
23/06/2011 17:33:37

CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

CEN 10:1 STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	
Mass Sample taken (kg)	0.103	**Moisture Content Ratio (%)**	14.3
Mass of dry sample (kg)	0.175	**Dry Matter Content Ratio (%)**	87.5
Particle Size <4mm	>95%		

Case	
SDG	110523-40
Lab Sample Number(s)	3515878
Sampled Date	19-May-2011
Customer Sample Ref.	TP 115
Depth (m)	0.30

Solid Waste Analysis	**Result**			
Total Organic Carbon (%)	-	-	-	-
Loss on Ignition (%)	-	-	-	-
Sum of BTEX (mg/kg)	none detected	-	-	-
Sum of 7 PCBs (mg/kg)	-	-	-	-
Mineral Oil (mg/kg)	-	-	-	-
PAH Sum of 17 (mg/kg)	-	-	-	-
pH (pH Units)	7.94	-	-	-
ANC to pH 6 (mol/kg)	-	-	-	-
ANC to pH 4 (mol/kg)	-	-	-	-

Eluate Analysis	**C_2** Conc^n in 10:1 eluate (mg/l)		**A_2** 10:1 conc^n leached (mg/kg)		Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Hexavalent Chromium	<0.03	<0.03	<0.3	<0.3	-	-	-
pH	7.7	<0.001	77	<0.01	-	-	-
Sulphide	<0.01	<0.01	<0.1	<0.1	-	-	-
Total Cyanide (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Free Cyanide (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Phenol by HPLC (W)	<0.002	<0.002	<0.02	<0.02	-	-	-
Thiocyanate (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Boron	0.0215	<0.0094	0.215	<0.094	-	-	-
PAH Spec MS - Aqueous (W)							
Naphthalene by GCMS	<0.0001	<0.0001	<0.001	<0.001	-	-	-
Acenaphthene by GCMS	<0.000015	<0.000015	<0.00015	<0.00015	-	-	-
Acenaphthylene by GCMS	<0.000011	<0.000011	<0.00011	<0.00011	-	-	-
Fluoranthene by GCMS	<0.000017	<0.000017	<0.00017	<0.00017	-	-	-
Anthracene by GCMS	<0.000015	<0.000015	<0.00015	<0.00015	-	-	-
Phenanthrene by GCMS	<0.000022	<0.000022	<0.00022	<0.00022	-	-	-
Fluorene by GCMS	<0.000014	<0.000014	<0.00014	<0.00014	-	-	-
Chrysene by GCMS	<0.000013	<0.000013	<0.00013	<0.00013	-	-	-
Pyrene by GCMS	<0.000015	<0.000015	<0.00015	<0.00015	-	-	-
Benz(a)anthracene by GCMS	<0.000017	<0.000017	<0.00017	<0.00017	-	-	-
Benzo(b)fluoranthene by GCMS	<0.000023	<0.000023	<0.00023	<0.00023	-	-	-
Benzo(k)fluoranthene by GCMS	<0.000027	<0.000027	<0.00027	<0.00027	-	-	-
Benzo(a)pyrene by GCMS	<0.000009	<0.000009	<0.00009	<0.00009	-	-	-
Dibenzo(ah)anthracene by GCMS	<0.000016	<0.000016	<0.00016	<0.00016	-	-	-

Leach Test Information

Date Prepared	15-Jun-2011
pH (pH Units)	7.45
Conductivity (µS/cm)	220.00
Temperature (°C)	22.30
Volume Leachant (Litres)	0.887
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ALcontrol cannot be held responsible for any discrepancies with current legislation
Mcerts Certification does not apply to leachates
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CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

CEN 10:1 STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	
Mass Sample taken (kg)	0.103	**Moisture Content Ratio (%)**	14.3
Mass of dry sample (kg)	0.175	**Dry Matter Content Ratio (%)**	87.5
Particle Size <4mm	>95%		

Case	
SDG	110523-40
Lab Sample Number(s)	3515878
Sampled Date	19-May-2011
Customer Sample Ref.	TP 115
Depth (m)	0.30

Solid Waste Analysis	**Result**			
Total Organic Carbon (%)	-	-	-	-
Loss on Ignition (%)	-	-	-	-
Sum of BTEX (mg/kg)	none detected	-	-	-
Sum of 7 PCBs (mg/kg)	-	-	-	-
Mineral Oil (mg/kg)	-	-	-	-
PAH Sum of 17 (mg/kg)	-	-	-	-
pH (pH Units)	7.94	-	-	-
ANC to pH 6 (mol/kg)	-	-	-	-
ANC to pH 4 (mol/kg)	-	-	-	-

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
PAH Spec MS - Aqueous (W)							
Benzo(ghi)perylene by GCMS	<0.000016	<0.000016	<0.00016	<0.00016	-	-	-
Indeno(123cd)pyrene by GCMS	<0.000014	<0.000014	<0.00014	<0.00014	-	-	-
PAH 16 EPA Total by GCMS	0	<0	0	<0	-	-	-
TPH CWG (W)							
Surrogate Recovery	-	<0	-	<0	-	-	-
GRO TOT (C5-C12)	<0.05	<0.05	<0.5	<0.5	-	-	-
Aliphatics C5-C6	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C6-C8	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C8-C10	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C10-C12	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C12-C16	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C16-C21	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C21-C35	<0.01	<0.01	<0.1	<0.1	-	-	-
Total Aliphatics >C12-C35	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics C6-C7	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >C7-C8	<0.01	<0.01	<0.1	<0.1	-	-	-
MTBE GC-FID	<0.003	<0.003	<0.03	<0.03	-	-	-
Aromatics >EC8 -EC10	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC10-EC12	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC12-EC16	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC16-EC21	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC21-EC35	<0.01	<0.01	<0.1	<0.1	-	-	-
Total Aromatics >EC12-EC35	<0.01	<0.01	<0.1	<0.1	-	-	-

Leach Test Information

Date Prepared	15-Jun-2011
pH (pH Units)	7.45
Conductivity (µS/cm)	220.00
Temperature (°C)	22.30
Volume Leachant (Litres)	0.887
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ALcontrol cannot be held responsible for any discrepancies with current legislation
Mcerts Certification does not apply to leachates
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CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

CEN 10:1 STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	
Mass Sample taken (kg)	0.103	**Moisture Content Ratio (%)**	14.3
Mass of dry sample (kg)	0.175	**Dry Matter Content Ratio (%)**	87.5
Particle Size <4mm	>95%		

Case	
SDG	110523-40
Lab Sample Number(s)	3515878
Sampled Date	19-May-2011
Customer Sample Ref.	TP 115
Depth (m)	0.30

Solid Waste Analysis	**Result**			
Total Organic Carbon (%)	-	-	-	-
Loss on Ignition (%)	-	-	-	-
Sum of BTEX (mg/kg)	none detected	-	-	-
Sum of 7 PCBs (mg/kg)	-	-	-	-
Mineral Oil (mg/kg)	-	-	-	-
PAH Sum of 17 (mg/kg)	-	-	-	-
pH (pH Units)	7.94	-	-	-
ANC to pH 6 (mol/kg)	-	-	-	-
ANC to pH 4 (mol/kg)	-	-	-	-

Eluate Analysis	**C_2 Conc^n in 10:1 eluate (mg/l)**		**A_2 10:1 conc^n leached (mg/kg)**		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
TPH CWG (W)							
Benzene by GC	<0.007	<0.007	<0.07	<0.07	-	-	-
Toluene by GC	<0.004	<0.004	<0.04	<0.04	-	-	-
Ethylbenzene by GC	<0.005	<0.005	<0.05	<0.05	-	-	-
m & p Xylene by GC	<0.008	<0.008	<0.08	<0.08	-	-	-
o Xylene by GC	<0.003	<0.003	<0.03	<0.03	-	-	-
Sum m&p and o Xylene by GC	0	<0	0	<0	-	-	-
Sum of BTEX by GC	0	<0	0	<0	-	-	-
TPH (Total Aliphatics + Total Aromatics) >C5-C35	<0.01	<0.01	<0.1	<0.1	-	-	-

Leach Test Information

Date Prepared	15-Jun-2011
pH (pH Units)	7.45
Conductivity (µS/cm)	220.00
Temperature (°C)	22.30
Volume Leachant (Litres)	0.887
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ALcontrol cannot be held responsible for any discrepancies with current legislation
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CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

CEN 10:1 STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	
Mass Sample taken (kg)	0.109	**Moisture Content Ratio (%)**	21.7
Mass of dry sample (kg)	0.175	**Dry Matter Content Ratio (%)**	82.2
Particle Size <4mm	>95%		

Case	
SDG	110523-40
Lab Sample Number(s)	3515883
Sampled Date	20-May-2011
Customer Sample Ref.	TP 118
Depth (m)	0.70

Solid Waste Analysis	**Result**			
Total Organic Carbon (%)	-	-	-	-
Loss on Ignition (%)	-	-	-	-
Sum of BTEX (mg/kg)	-	-	-	-
Sum of 7 PCBs (mg/kg)	-	-	-	-
Mineral Oil (mg/kg)	-	-	-	-
PAH Sum of 17 (mg/kg)	-	-	-	-
pH (pH Units)	8.23	-	-	-
ANC to pH 6 (mol/kg)	-	-	-	-
ANC to pH 4 (mol/kg)	-	-	-	-

Eluate Analysis	**C_2 Conc^n in 10:1 eluate (mg/l)**		**A_2 10:1 conc^n leached (mg/kg)**		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Arsenic	0.000466	<0.00012	0.00466	<0.0012	-	-	-
Barium	-	-	-	-	-	-	-
Cadmium	<0.0001	<0.0001	<0.001	<0.001	-	-	-
Chromium	0.0026	<0.00022	0.026	<0.0022	-	-	-
Copper	0.00158	<0.00085	0.0158	<0.0085	-	-	-
Mercury Dissolved (CVAF)	<0.00001	<0.00001	<0.0001	<0.0001	-	-	-
Molybdenum	-	-	-	-	-	-	-
Nickel	0.0015	<0.00015	0.015	<0.0015	-	-	-
Lead	0.000661	<0.00002	0.00661	<0.0002	-	-	-
Antimony	-	-	-	-	-	-	-
Selenium	<0.00039	<0.00039	<0.0039	<0.0039	-	-	-
Zinc	0.00346	<0.00041	0.0346	<0.0041	-	-	-
Chloride	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-
Sulphate (soluble)	-	-	-	-	-	-	-
Total Dissolved Solids	-	-	-	-	-	-	-
Total Monohydric Phenols (W)	-	-	-	-	-	-	-
Dissolved Organic Carbon	-	-	-	-	-	-	-

Leach Test Information

Date Prepared	15-Jun-2011
pH (pH Units)	7.68
Conductivity (µS/cm)	128.00
Temperature (°C)	22.30
Volume Leachant (Litres)	0.880
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
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Mcerts Certification does not apply to leachates

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CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

CEN 10:1 STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	
Mass Sample taken (kg)	0.109	**Moisture Content Ratio (%)**	21.7
Mass of dry sample (kg)	0.175	**Dry Matter Content Ratio (%)**	82.2
Particle Size <4mm	>95%		

Case	
SDG	110523-40
Lab Sample Number(s)	3515883
Sampled Date	20-May-2011
Customer Sample Ref.	TP 118
Depth (m)	0.70

Solid Waste Analysis	**Result**			
Total Organic Carbon (%)	-	-	-	-
Loss on Ignition (%)	-	-	-	-
Sum of BTEX (mg/kg)	-	-	-	-
Sum of 7 PCBs (mg/kg)	-	-	-	-
Mineral Oil (mg/kg)	-	-	-	-
PAH Sum of 17 (mg/kg)	-	-	-	-
pH (pH Units)	8.23	-	-	-
ANC to pH 6 (mol/kg)	-	-	-	-
ANC to pH 4 (mol/kg)	-	-	-	-

Eluate Analysis	**C_2 Conc^n in 10:1 eluate (mg/l)**		**A_2 10:1 conc^n leached (mg/kg)**		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
PAH Spec MS - Aqueous (W)							
Naphthalene by GCMS	<0.0001	<0.0001	<0.001	<0.001	-	-	-
Acenaphthene by GCMS	<0.000015	<0.000015	<0.00015	<0.00015	-	-	-
Acenaphthylene by GCMS	<0.000011	<0.000011	<0.00011	<0.00011	-	-	-
Fluoranthene by GCMS	0.0000368	<0.000017	0.000368	<0.00017	-	-	-
Anthracene by GCMS	<0.000015	<0.000015	<0.00015	<0.00015	-	-	-
Phenanthrene by GCMS	<0.000022	<0.000022	<0.00022	<0.00022	-	-	-
Fluorene by GCMS	<0.000014	<0.000014	<0.00014	<0.00014	-	-	-
Chrysene by GCMS	<0.000013	<0.000013	<0.00013	<0.00013	-	-	-
Pyrene by GCMS	0.00003	<0.000015	0.0003	<0.00015	-	-	-
Benz(a)anthracene by GCMS	0.0000193	<0.000017	0.000193	<0.00017	-	-	-
Benzo(b)fluoranthene by GCMS	<0.000023	<0.000023	<0.00023	<0.00023	-	-	-
Benzo(k)fluoranthene by GCMS	<0.000027	<0.000027	<0.00027	<0.00027	-	-	-
Benzo(a)pyrene by GCMS	<0.000009	<0.000009	<0.00009	<0.00009	-	-	-
Dibenzo(ah)anthracene by GCMS	<0.000016	<0.000016	<0.00016	<0.00016	-	-	-
Benzo(ghi)perylene by GCMS	<0.000016	<0.000016	<0.00016	<0.00016	-	-	-
Indeno(123cd)pyrene by GCMS	<0.000014	<0.000014	<0.00014	<0.00014	-	-	-
PAH 16 EPA Total by GCMS	0.0000861	<0	0.000861	<0	-	-	-

Leach Test Information

Date Prepared	15-Jun-2011
pH (pH Units)	7.68
Conductivity (µS/cm)	128.00
Temperature (°C)	22.30
Volume Leachant (Litres)	0.880
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
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CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

CEN 10:1 STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	
Mass Sample taken (kg)	0.119	**Moisture Content Ratio (%)**	31.9
Mass of dry sample (kg)	0.175	**Dry Matter Content Ratio (%)**	75.8
Particle Size <4mm	>95%		

Case	
SDG	110523-40
Lab Sample Number(s)	3515901
Sampled Date	17-May-2011
Customer Sample Ref.	WS 108
Depth (m)	0.40

Solid Waste Analysis	**Result**			
Total Organic Carbon (%)	-	-	-	-
Loss on Ignition (%)	-	-	-	-
Sum of BTEX (mg/kg)	0.0357	-	-	-
Sum of 7 PCBs (mg/kg)	<3.00	-	-	-
Mineral Oil (mg/kg)	-	-	-	-
PAH Sum of 17 (mg/kg)	-	-	-	-
pH (pH Units)	7.91	-	-	-
ANC to pH 6 (mol/kg)	-	-	-	-
ANC to pH 4 (mol/kg)	-	-	-	-

Eluate Analysis	**C_2 Conc^n in 10:1 eluate (mg/l)**		**A_2 10:1 conc^n leached (mg/kg)**		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Arsenic	0.0224	<0.00012	0.224	<0.0012	-	-	-
Barium	-	-	-	-	-	-	-
Cadmium	<0.0001	<0.0001	<0.001	<0.001	-	-	-
Chromium	0.00489	<0.00022	0.0489	<0.0022	-	-	-
Copper	0.0609	<0.00085	0.609	<0.0085	-	-	-
Mercury Dissolved (CVAF)	0.0000194	<0.00001	0.000194	<0.0001	-	-	-
Molybdenum	-	-	-	-	-	-	-
Nickel	0.00315	<0.00015	0.0315	<0.0015	-	-	-
Lead	0.00169	<0.00002	0.0169	<0.0002	-	-	-
Antimony	-	-	-	-	-	-	-
Selenium	0.00443	<0.00039	0.0443	<0.0039	-	-	-
Zinc	0.00383	<0.00041	0.0383	<0.0041	-	-	-
Chloride	-	-	-	-	-	-	-
Fluoride	-	-	-	-	-	-	-
Sulphate (soluble)	30.2	<2	302	<20	-	-	-
Total Dissolved Solids	-	-	-	-	-	-	-
Total Monohydric Phenols (W)	0	<0	0	<0	-	-	-
Dissolved Organic Carbon	-	-	-	-	-	-	-

Leach Test Information

Date Prepared	15-Jun-2011
pH (pH Units)	7.68
Conductivity (µS/cm)	215.00
Temperature (°C)	22.20
Volume Leachant (Litres)	0.871
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ALcontrol cannot be held responsible for any discrepancies with current legislation
Mcerts Certification does not apply to leachates
23/06/2011 17:33:37

CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

CEN 10:1 STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	
Mass Sample taken (kg)	0.119	**Moisture Content Ratio (%)**	31.9
Mass of dry sample (kg)	0.175	**Dry Matter Content Ratio (%)**	75.8
Particle Size <4mm	>95%		

Case	
SDG	110523-40
Lab Sample Number(s)	3515901
Sampled Date	17-May-2011
Customer Sample Ref.	WS 108
Depth (m)	0.40

Solid Waste Analysis	**Result**			
Total Organic Carbon (%)	-	-	-	-
Loss on Ignition (%)	-	-	-	-
Sum of BTEX (mg/kg)	0.0357	-	-	-
Sum of 7 PCBs (mg/kg)	<3.00	-	-	-
Mineral Oil (mg/kg)	-	-	-	-
PAH Sum of 17 (mg/kg)	-	-	-	-
pH (pH Units)	7.91	-	-	-
ANC to pH 6 (mol/kg)	-	-	-	-
ANC to pH 4 (mol/kg)	-	-	-	-

Eluate Analysis	**C_2** Conc^n in 10:1 eluate (mg/l)		**A_2** 10:1 conc^n leached (mg/kg)		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
Hexavalent Chromium	<0.03	<0.03	<0.3	<0.3	-	-	-
pH	8	<0.001	80	<0.01	-	-	-
Sulphide	<0.01	<0.01	<0.1	<0.1	-	-	-
Total Cyanide (W)	0.056	<0.05	0.56	<0.5	-	-	-
Free Cyanide (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Phenol by HPLC (W)	<0.002	<0.002	<0.02	<0.02	-	-	-
Thiocyanate (W)	<0.05	<0.05	<0.5	<0.5	-	-	-
Boron	0.0781	<0.0094	0.781	<0.094	-	-	-
PAH Spec MS - Aqueous (W)							
Naphthalene by GCMS	<0.0001	<0.0001	<0.001	<0.001	-	-	-
Acenaphthene by GCMS	0.0000803	<0.000015	0.000803	<0.00015	-	-	-
Acenaphthylene by GCMS	<0.000011	<0.000011	<0.00011	<0.00011	-	-	-
Fluoranthene by GCMS	0.0000523	<0.000017	0.000523	<0.00017	-	-	-
Anthracene by GCMS	0.000027	<0.000015	0.00027	<0.00015	-	-	-
Phenanthrene by GCMS	0.000027	<0.000022	0.00027	<0.00022	-	-	-
Fluorene by GCMS	0.0000311	<0.000014	0.000311	<0.00014	-	-	-
Chrysene by GCMS	0.0000277	<0.000013	0.000277	<0.00013	-	-	-
Pyrene by GCMS	0.0000565	<0.000015	0.000565	<0.00015	-	-	-
Benz(a)anthracene by GCMS	0.0000247	<0.000017	0.000247	<0.00017	-	-	-
Benzo(b)fluoranthene by GCMS	<0.000023	<0.000023	<0.00023	<0.00023	-	-	-
Benzo(k)fluoranthene by GCMS	<0.000027	<0.000027	<0.00027	<0.00027	-	-	-
Benzo(a)pyrene by GCMS	0.00000926	<0.000009	0.0000926	<0.00009	-	-	-
Dibenzo(ah)anthracene by GCMS	<0.000016	<0.000016	<0.00016	<0.00016	-	-	-

Leach Test Information

Date Prepared	15-Jun-2011
pH (pH Units)	7.68
Conductivity (µS/cm)	215.00
Temperature (°C)	22.20
Volume Leachant (Litres)	0.871
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
Stated limits are for guidance only and ALcontrol cannot be held responsible for any discrepancies with current legislation
Mcerts Certification does not apply to leachates
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CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

CEN 10:1 STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	
Mass Sample taken (kg)	0.119	**Moisture Content Ratio (%)**	31.9
Mass of dry sample (kg)	0.175	**Dry Matter Content Ratio (%)**	75.8
Particle Size <4mm	>95%		

Case	
SDG	110523-40
Lab Sample Number(s)	3515901
Sampled Date	17-May-2011
Customer Sample Ref.	WS 108
Depth (m)	0.40

Solid Waste Analysis	**Result**			
Total Organic Carbon (%)	-	-	-	-
Loss on Ignition (%)	-	-	-	-
Sum of BTEX (mg/kg)	0.0357	-	-	-
Sum of 7 PCBs (mg/kg)	<3.00	-	-	-
Mineral Oil (mg/kg)	-	-	-	-
PAH Sum of 17 (mg/kg)	-	-	-	-
pH (pH Units)	7.91	-	-	-
ANC to pH 6 (mol/kg)	-	-	-	-
ANC to pH 4 (mol/kg)	-	-	-	-

Eluate Analysis	**C_2 Concⁿ in 10:1 eluate (mg/l)**		**A_2 10:1 concⁿ leached (mg/kg)**		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
PAH Spec MS - Aqueous (W)							
Benzo(ghi)perylene by GCMS	<0.000016	<0.000016	<0.00016	<0.00016	-	-	-
Indeno(123cd)pyrene by GCMS	<0.000014	<0.000014	<0.00014	<0.00014	-	-	-
PAH 16 EPA Total by GCMS	0.000336	<0	0.00336	<0	-	-	-
TPH CWG (W)							
Surrogate Recovery	-	<0	-	<0	-	-	-
GRO TOT (C5-C12)	<0.05	<0.05	<0.5	<0.5	-	-	-
Aliphatics C5-C6	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C6-C8	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C8-C10	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C10-C12	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C12-C16	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C16-C21	<0.01	<0.01	<0.1	<0.1	-	-	-
Aliphatics >C21-C35	<0.01	<0.01	<0.1	<0.1	-	-	-
Total Aliphatics >C12-C35	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics C6-C7	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >C7-C8	<0.01	<0.01	<0.1	<0.1	-	-	-
MTBE GC-FID	<0.003	<0.003	<0.03	<0.03	-	-	-
Aromatics >EC8 -EC10	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC10-EC12	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC12-EC16	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC16-EC21	<0.01	<0.01	<0.1	<0.1	-	-	-
Aromatics >EC21-EC35	<0.01	<0.01	<0.1	<0.1	-	-	-
Total Aromatics >EC12-EC35	<0.01	<0.01	<0.1	<0.1	-	-	-

Leach Test Information

Date Prepared	15-Jun-2011
pH (pH Units)	7.68
Conductivity (µS/cm)	215.00
Temperature (°C)	22.20
Volume Leachant (Litres)	0.871
Volume of Eluate VE1 (Litres)	

Solid Results are expressed on a dry weight basis, after correction for moisture content where applicable
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CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

CEN 10:1 STAGE BATCH TEST

WAC ANALYTICAL RESULTS

REF : BS EN 12457/2

Client Reference		**Site Location**	
Mass Sample taken (kg)	0.119	**Moisture Content Ratio (%)**	31.9
Mass of dry sample (kg)	0.175	**Dry Matter Content Ratio (%)**	75.8
Particle Size <4mm	>95%		

Case	
SDG	110523-40
Lab Sample Number(s)	3515901
Sampled Date	17-May-2011
Customer Sample Ref.	WS 108
Depth (m)	0.40

Solid Waste Analysis	**Result**			
Total Organic Carbon (%)	-	-	-	-
Loss on Ignition (%)	-	-	-	-
Sum of BTEX (mg/kg)	0.0357	-	-	-
Sum of 7 PCBs (mg/kg)	<3.00	-	-	-
Mineral Oil (mg/kg)	-	-	-	-
PAH Sum of 17 (mg/kg)	-	-	-	-
pH (pH Units)	7.91	-	-	-
ANC to pH 6 (mol/kg)	-	-	-	-
ANC to pH 4 (mol/kg)	-	-	-	-

Eluate Analysis	**C_2 Conc^n in 10:1 eluate (mg/l)**		**A_2 10:1 conc^n leached (mg/kg)**		**Limit values for compliance leaching test using BS EN 12457-3 at L/S 10 l/kg**		
	Result	**Limit of Detection**	**Result**	**Limit of Detection**			
TPH CWG (W)							
Benzene by GC	<0.007	<0.007	<0.07	<0.07	-	-	-
Toluene by GC	<0.004	<0.004	<0.04	<0.04	-	-	-
Ethylbenzene by GC	<0.005	<0.005	<0.05	<0.05	-	-	-
m & p Xylene by GC	<0.008	<0.008	<0.08	<0.08	-	-	-
o Xylene by GC	<0.003	<0.003	<0.03	<0.03	-	-	-
Sum m&p and o Xylene by GC	0	<0	0	<0	-	-	-
Sum of BTEX by GC	0	<0	0	<0	-	-	-
TPH (Total Aliphatics + Total Aromatics) >C5-C35	<0.01	<0.01	<0.1	<0.1	-	-	-

Leach Test Information

Date Prepared	15-Jun-2011
pH (pH Units)	7.68
Conductivity (µS/cm)	215.00
Temperature (°C)	22.20
Volume Leachant (Litres)	0.871
Volume of Eluate VE1 (Litres)	

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CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

Notification of Non-Conforming Work

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
3516050	TP 111	0.70	SOLID	VOC MS (S)	1,1,2-Trichloro-1,2,2-Trifluoroethane (TIC)	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	1.1.1.2-Tetrachloroethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	1.1.1-Trichloroethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	1.1.2.2-Tetrachloroethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	1.1.2-Trichloroethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	1.1-Dichloroethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	1.1-Dichloroethene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	1.1-Dichloropropene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	1.2.3-Trichlorobenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	1.2.3-Trichloropropane	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	1.2.4-Trichlorobenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	1.2.4-Trimethylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	1.2-Dibromo-3-chloropropane	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	1.2-Dibromoethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	1.2-Dichlorobenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	1.2-Dichloroethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	1.2-Dichloropropane	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	1.3.5-Trimethylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	1.3-Dichlorobenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	1.3-Dichloropropane	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	1.4-Dichlorobenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	2.2-Dichloropropane	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	2-Chlorotoluene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	4-Bromofluorobenzene**	Volatile Analysis performed on vessel with headspace due testing requirement

CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
3516050	TP 111	0.70	SOLID	VOC MS (S)	4-Chlorotoluene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	4-Isopropyltoluene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Benzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Bromobenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Bromochloromethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Bromodichloromethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Bromoform	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Bromomethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Carbon disulphide	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Carbontetrachloride	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Chlorobenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Chloroethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Chloroform	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Chloromethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	cis-1-2-Dichloroethene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	cis-1-3-Dichloropropene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Dibromochloromethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Dibromofluoromethane**	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Dibromomethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Dichlorodifluoromethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Dichloromethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Dilution	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Ethylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Hexachlorobutadiene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Isopropylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement

CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
3516050	TP 111	0.70	SOLID	VOC MS (S)	LCS Reagent	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Methyl Tertiary Butyl Ether	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Naphthalene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	n-Butylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	o-Xylene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	p/m-Xylene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Propylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	sec-Butylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Styrene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Tert-amyl methyl ether	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	tert-Butylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Tetrachloroethene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	TIC Instructions	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Toluene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Toluene-d8**	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	trans-1-2-Dichloroethene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	trans-1-3-Dichloropropene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Trichloroethene	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Trichlorofluoromethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Trichlorofluorormethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	Vinyl Chloride	Volatile Analysis performed on vessel with headspace due testing requirement
3516050	TP 111	0.70	SOLID	VOC MS (S)	VOC TIC	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	1,1,2-Trichloro-1,2,2-Trifluoroethane (TIC)	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	1.1.1.2-Tetrachloroethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	1.1.1-Trichloroethane	Volatile Analysis performed on vessel with headspace due testing requirement

CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
3516059	TP 111	1.20	SOLID	VOC MS (S)	1.1.2.2-Tetrachloroethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	1.1.2-Trichloroethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	1.1-Dichloroethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	1.1-Dichloroethene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	1.1-Dichloropropene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	1.2.3-Trichlorobenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	1.2.3-Trichloropropane	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	1.2.4-Trichlorobenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	1.2.4-Trimethylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	1.2-Dibromo-3-chloropropane	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	1.2-Dibromoethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	1.2-Dichlorobenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	1.2-Dichloroethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	1.2-Dichloropropane	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	1.3.5-Trimethylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	1.3-Dichlorobenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	1.3-Dichloropropane	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	1.4-Dichlorobenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	2.2-Dichloropropane	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	2-Chlorotoluene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	4-Bromofluorobenzene**	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	4-Chlorotoluene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	4-Isopropyltoluene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Benzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Bromobenzene	Volatile Analysis performed on vessel with headspace due testing requirement

CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
3516059	TP 111	1.20	SOLID	VOC MS (S)	Bromochloromethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Bromodichloromethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Bromoform	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Bromomethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Carbon disulphide	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Carbontetrachloride	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Chlorobenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Chloroethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Chloroform	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Chloromethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	cis-1-2-Dichloroethene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	cis-1-3-Dichloropropene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Dibromochloromethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Dibromofluoromethane**	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Dibromomethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Dichlorodifluoromethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Dichloromethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Dilution	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Ethylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Hexachlorobutadiene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Isopropylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	LCS Reagent	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Methyl Tertiary Butyl Ether	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Naphthalene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	n-Butylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement

CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
3516059	TP 111	1.20	SOLID	VOC MS (S)	o-Xylene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	p/m-Xylene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Propylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	sec-Butylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Styrene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Tert-amyl methyl ether	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	tert-Butylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Tetrachloroethene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	TIC Instructions	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Toluene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Toluene-d8**	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	trans-1-2-Dichloroethene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	trans-1-3-Dichloropropene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Trichloroethene	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Trichlorofluoromethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Trichlorofluorormethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	Vinyl Chloride	Volatile Analysis performed on vessel with headspace due testing requirement
3516059	TP 111	1.20	SOLID	VOC MS (S)	VOC TIC	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	1,1,2-Trichloro-1,2,2-Trifluoroethane (TIC)	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	1.1.1.2-Tetrachloroethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	1.1.1-Trichloroethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	1.1.2.2-Tetrachloroethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	1.1.2-Trichloroethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	1.1-Dichloroethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	1.1-Dichloroethene	Volatile Analysis performed on vessel with headspace due testing requirement

CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
3516101	TP 115	0.30	SOLID	VOC MS (S)	1.1-Dichloropropene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	1.2.3-Trichlorobenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	1.2.3-Trichloropropane	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	1.2.4-Trichlorobenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	1.2.4-Trimethylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	1.2-Dibromo-3-chloropropane	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	1.2-Dibromoethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	1.2-Dichlorobenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	1.2-Dichloroethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	1.2-Dichloropropane	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	1.3.5-Trimethylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	1.3-Dichlorobenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	1.3-Dichloropropane	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	1.4-Dichlorobenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	2.2-Dichloropropane	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	2-Chlorotoluene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	4-Bromofluorobenzene**	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	4-Chlorotoluene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	4-Isopropyltoluene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Benzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Bromobenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Bromochloromethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Bromodichloromethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Bromoform	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Bromomethane	Volatile Analysis performed on vessel with headspace due testing requirement

CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
3516101	TP 115	0.30	SOLID	VOC MS (S)	Carbon disulphide	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Carbontetrachloride	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Chlorobenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Chloroethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Chloroform	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Chloromethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	cis-1-2-Dichloroethene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	cis-1-3-Dichloropropene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Dibromochloromethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Dibromofluoromethane**	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Dibromomethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Dichlorodifluoromethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Dichloromethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Dilution	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Ethylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Hexachlorobutadiene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Isopropylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	LCS Reagent	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Methyl Tertiary Butyl Ether	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Naphthalene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	n-Butylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	o-Xylene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	p/m-Xylene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Propylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	sec-Butylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement

CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
3516101	TP 115	0.30	SOLID	VOC MS (S)	Styrene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Tert-amyl methyl ether	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	tert-Butylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Tetrachloroethene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	TIC Instructions	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Toluene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Toluene-d8**	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	trans-1-2-Dichloroethene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	trans-1-3-Dichloropropene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Trichloroethene	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Trichlorofluoromethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Trichlorofluorormethane	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	Vinyl Chloride	Volatile Analysis performed on vessel with headspace due testing requirement
3516101	TP 115	0.30	SOLID	VOC MS (S)	VOC TIC	Volatile Analysis performed on vessel with headspace due testing requirement

Note : Test results may be invalid

CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

Table of Results - Appendix

REPORT KEY

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03x10-7

NDP	No Determination Possible	#	ISO 17025 Accredited	*	Subcontracted Test	M	MCERTS Accredited
NFD	No Fibres Detected	PFD	Possible Fibres Detected	»	Result previously reported (Incremental reports only)	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control

Method No	Reference	Description	Wet/Dry Sample ¹	Surrogate Corrected
PM001		Preparation of Samples for Metals Analysis		
PM024	Modified BS 1377	Soil preparation including homogenisation, moisture screens of soils for Asbestos Containing Material		
PM114		Leaching Procedure for CEN Two Stage BatchTest 2:1/8:1 Cumulative		
PM115		Leaching Procedure for CEN One Stage Leach Test 2:1 & 10:1 1 Step		
TM001	In - house Method	Determination of asbestos containing material by screening on solids		
TM048	HSG 248, Asbestos: The analysts' guide for sampling, analysis and clearance procedures	Identification of Asbestos in Bulk Material		
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM062 (S)	National Grid Property Holdings Methods for the Collection & Analysis of Samples from National Grid Sites version 1 Sec 3.9	Determination of Phenols in Soils by HPLC		
TM089	Modified: US EPA Methods 8020 & 602	Determination of Gasoline Range Hydrocarbons (GRO) and BTEX (MTBE) compounds by Headspace GC-FID (C4-C12)		
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser		
TM116	Modified: US EPA Method 8260, 8120, 8020, 624, 610 & 602	Determination of Volatile Organic Compounds by Headspace / GC-MS		
TM132	In - house Method	ELTRA CS800 Operators Guide		
TM133	BS 1377: Part 3 1990;BS 6068-2.5	Determination of pH in Soil and Water using the GLpH pH Meter		
TM151	Method 3500D, AWWA/APHA, 20th Ed., 1999	Determination of Hexavalent Chromium using Kone analyser		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM153	Method 4500A,B,C, I, M AWWA/APHA, 20th Ed., 1999	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate using the Skalar SANS+ System Segmented Flow Analyser		
TM157	HP 6890 Gas Chromatograph (GC) system and HP 5973 Mass Selective Detector (MSD).	Determination of SVOC in Soils by GC-MS extracted by sonication in DCM/Acetone		
TM168	EPA Method 8082, Polychlorinated Biphenyls by Gas Chromatography	Determination of WHO12 and EC7 Polychlorinated Biphenyl Congeners by GC-MS in Soils		
TM173	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Soils by GC-FID		
TM174	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID		
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters		
TM180	Sulphide in waters and waste waters 1991 ISBN 01 175 7186 SCA rec. 2007 (unpublished)'	The Determination Of Easily Liberated Sulphide In Soil Samples by Ion Selective Electrode Technique		
TM181	US EPA Method 6010B	Determination of Routine Metals in Soil by iCap 6500 Duo ICP-OES		
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM218	Microwave extraction – EPA method 3546	Microwave extraction - EPA method 3546		
TM221	Inductively Coupled Plasma - Atomic Emission Spectroscopy. An Atlas of Spectral Information: Winge, Fassel, Peterson and Floyd	Determination of Acid extractable Sulphate in Soils by IRIS Emission Spectrometer		
TM222	In-House Method	Determination of Hot Water Soluble Boron in Soils (10:1 Water:soil) by IRIS Emission Spectrometer		
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate		
TM241	Methods for the Examination of Waters and Associated Materials; Chromium in Raw and Potable Waters and Sewage Effluents 1980.	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser		
TM243				
TM245	By GC-FID	Determination of GRO by Headspace in waters		
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter		

CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

Method No	Reference	Description	Wet/Dry Sample [1]	Surrogate Corrected
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC		

[1] Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

Test Completion Dates

Lab Sample No(s)	3515843	3515844	3515847	3515852	3515853	3515854	3515856	3515860	3515861	3515862
Customer Sample Ref.	TP 101	TP 102	TP 103	TP 104	TP 105	TP 105	TP 106	TP 107	TP 108	TP 109
AGS Ref.										
Depth	0.60	0.80	0.40	0.50	0.30	0.90	0.50	0.70	0.75	0.60
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Anions by Kone (soil)	27-May-2011		02-Jun-2011	01-Jun-2011	01-Jun-2011		01-Jun-2011	01-Jun-2011	27-May-2011	27-May-2011
Asbestos Containing Material Screen			26-May-2011	26-May-2011	25-May-2011		26-May-2011	28-May-2011		
Asbestos Identification			28-May-2011							
Boron Water Soluble		27-May-2011				27-May-2011				31-May-2011
CEN 10:1 Leachate (1 Stage)	15-Jun-2011			15-Jun-2011						
CEN Readings	21-Jun-2011			21-Jun-2011						
Cyanide Comp/Free/Total/Thiocyanate	01-Jun-2011	01-Jun-2011	02-Jun-2011	31-May-2011	01-Jun-2011	01-Jun-2011	31-May-2011	01-Jun-2011	01-Jun-2011	01-Jun-2011
Dissolved Metals by ICP-MS	17-Jun-2011			17-Jun-2011						
Easily Liberated Sulphide		02-Jun-2011				02-Jun-2011				01-Jun-2011
EPH CWG (Aliphatic) GC (S)				02-Jun-2011	27-May-2011			02-Jun-2011		
EPH CWG (Aromatic) GC (S)				02-Jun-2011	27-May-2011			02-Jun-2011		
GRO by GC-FID (S)				02-Jun-2011	02-Jun-2011			02-Jun-2011		
Hexavalent Chromium (s)	31-May-2011	31-May-2011	02-Jun-2011	02-Jun-2011	31-May-2011	31-May-2011	02-Jun-2011	02-Jun-2011	02-Jun-2011	02-Jun-2011
Mercury Dissolved	20-Jun-2011			20-Jun-2011						
Metals by iCap-OES (Soil)	27-May-2011	27-May-2011	02-Jun-2011	02-Jun-2011	31-May-2011	01-Jun-2011	02-Jun-2011	02-Jun-2011	02-Jun-2011	31-May-2011
PAH by GCMS		02-Jun-2011				31-May-2011				02-Jun-2011
PAH Spec MS - Aqueous (W)	21-Jun-2011			21-Jun-2011						
pH	01-Jun-2011	01-Jun-2011	01-Jun-2011	01-Jun-2011	01-Jun-2011	01-Jun-2011	01-Jun-2011	01-Jun-2011	01-Jun-2011	01-Jun-2011
Phenols by HPLC (S)	31-May-2011	31-May-2011	02-Jun-2011	01-Jun-2011	31-May-2011	31-May-2011	01-Jun-2011	02-Jun-2011	27-May-2011	27-May-2011
Sample description	24-May-2011	24-May-2011	01-Jun-2011	27-May-2011	24-May-2011	24-May-2011	27-May-2011	31-May-2011	25-May-2011	25-May-2011
Semi Volatile Organic Compounds	31-May-2011		02-Jun-2011	01-Jun-2011	31-May-2011		01-Jun-2011	01-Jun-2011	31-May-2011	
Total Organic Carbon	31-May-2011		02-Jun-2011				01-Jun-2011			01-Jun-2011
Total Sulphate	31-May-2011	31-May-2011	02-Jun-2011	01-Jun-2011	31-May-2011	31-May-2011	01-Jun-2011	01-Jun-2011	31-May-2011	31-May-2011
Total Sulphur		31-May-2011				31-May-2011				31-May-2011
TPH CWG GC (S)				02-Jun-2011	02-Jun-2011			02-Jun-2011		
VOC MS (S)				01-Jun-2011	01-Jun-2011			01-Jun-2011		

Lab Sample No(s)	3515863	3515866	3515869	3515870	3515872	3515876	3515878	3515882	3515883	3515886
Customer Sample Ref.	TP 110	TP 111	TP 111	TP 112	TP 113	TP 114	TP 115	TP 117	TP 118	TP 119
AGS Ref.										
Depth	1.00	0.70	1.20	0.50	0.45	0.80	0.30	0.40	0.70	0.30
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Anions by Kone (soil)	02-Jun-2011	01-Jun-2011	02-Jun-2011		27-May-2011	01-Jun-2011	01-Jun-2011		01-Jun-2011	
Anions by Kone (w)			20-Jun-2011				20-Jun-2011			
Asbestos Containing Material Screen	26-May-2011	28-May-2011	28-May-2011				28-May-2011		28-May-2011	
Boron Water Soluble				27-May-2011		27-May-2011		31-May-2011		31-May-2011
CEN 10:1 Leachate (1 Stage)			15-Jun-2011				15-Jun-2011		15-Jun-2011	
CEN Readings			21-Jun-2011				21-Jun-2011		21-Jun-2011	
Cyanide Comp/Free/Total/Thiocyanate	31-May-2011	01-Jun-2011	17-Jun-2011	01-Jun-2011	01-Jun-2011	01-Jun-2011	17-Jun-2011	01-Jun-2011	01-Jun-2011	01-Jun-2011
Dissolved Metals by ICP-MS			17-Jun-2011				17-Jun-2011		17-Jun-2011	
Easily Liberated Sulphide				01-Jun-2011		02-Jun-2011		02-Jun-2011		02-Jun-2011
EPH CWG (Aliphatic) Aqueous GC (W)			22-Jun-2011				22-Jun-2011			
EPH CWG (Aliphatic) GC (S)	02-Jun-2011	02-Jun-2011	02-Jun-2011				02-Jun-2011			
EPH CWG (Aromatic) Aqueous GC (W)			22-Jun-2011				22-Jun-2011			
EPH CWG (Aromatic) GC (S)	02-Jun-2011	02-Jun-2011	02-Jun-2011				02-Jun-2011			
GRO by GC-FID (S)	02-Jun-2011	02-Jun-2011	02-Jun-2011				02-Jun-2011			
GRO by GC-FID (W)			23-Jun-2011				23-Jun-2011			
Hexavalent Chromium (s)	02-Jun-2011	02-Jun-2011	02-Jun-2011	31-May-2011	02-Jun-2011	02-Jun-2011	02-Jun-2011	02-Jun-2011	02-Jun-2011	02-Jun-2011
Hexavalent Chromium (w)			17-Jun-2011				17-Jun-2011			
Mercury Dissolved			20-Jun-2011				20-Jun-2011		20-Jun-2011	
Metals by iCap-OES (Soil)	01-Jun-2011	02-Jun-2011	01-Jun-2011	31-May-2011	31-May-2011	02-Jun-2011	02-Jun-2011	01-Jun-2011	02-Jun-2011	31-May-2011
PAH by GCMS				02-Jun-2011		02-Jun-2011		02-Jun-2011		02-Jun-2011
PAH Spec MS - Aqueous (W)			21-Jun-2011				21-Jun-2011		21-Jun-2011	
pH	01-Jun-2011	01-Jun-2011	01-Jun-2011	01-Jun-2011	01-Jun-2011	01-Jun-2011	01-Jun-2011	01-Jun-2011	01-Jun-2011	01-Jun-2011
pH Value			20-Jun-2011				20-Jun-2011			
Phenols by HPLC (S)	01-Jun-2011	02-Jun-2011	02-Jun-2011	31-May-2011	27-May-2011	31-May-2011	02-Jun-2011	31-May-2011	02-Jun-2011	31-May-2011
Phenols by HPLC (W)			20-Jun-2011				20-Jun-2011			
Sample description	27-May-2011	31-May-2011	24-May-2011	25-May-2011	25-May-2011	24-May-2011	31-May-2011	24-May-2011	31-May-2011	25-May-2011
Semi Volatile Organic Compounds	01-Jun-2011	01-Jun-2011	01-Jun-2011		31-May-2011		01-Jun-2011		01-Jun-2011	
Sulphide			20-Jun-2011				20-Jun-2011			
Total Organic Carbon		01-Jun-2011			01-Jun-2011	01-Jun-2011				
Total Sulphate	01-Jun-2011	01-Jun-2011	01-Jun-2011	31-May-2011	31-May-2011	31-May-2011	01-Jun-2011	31-May-2011	01-Jun-2011	31-May-2011
Total Sulphur				31-May-2011		31-May-2011		31-May-2011		31-May-2011
TPH CWG (W)			23-Jun-2011				23-Jun-2011			
TPH CWG GC (S)	02-Jun-2011	02-Jun-2011	02-Jun-2011				02-Jun-2011			
VOC MS (S)	01-Jun-2011	02-Jun-2011	02-Jun-2011				02-Jun-2011			

CERTIFICATE OF ANALYSIS

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

Lab Sample No(s)	3515887	3515888	3515891	3515894	3515895	3515897	3515899	3515901	3515902	3515903
Customer Sample Ref.	WS 101	WS 102	WS 103	WS 104	WS 105	WS 106	WS 107	WS 108	WS 109	WS 110
AGS Ref.										
Depth	0.40	0.70	0.30	0.40	0.30	0.50	0.50	0.40	0.70	0.60
Type	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID	SOLID
Anions by Kone (soil)	01-Jun-2011		02-Jun-2011	01-Jun-2011	01-Jun-2011		01-Jun-2011	02-Jun-2011	01-Jun-2011	01-Jun-2011
Anions by Kone (w)								20-Jun-2011		
Asbestos Containing Material Screen			28-May-2011		28-May-2011			28-May-2011		28-May-2011
Boron Water Soluble	27-May-2011	27-May-2011		27-May-2011		27-May-2011			27-May-2011	
CEN 10:1 Leachate (1 Stage)								15-Jun-2011		
CEN Readings								21-Jun-2011		
Cyanide Comp/Free/Total/Thiocyanate	31-May-2011	01-Jun-2011	01-Jun-2011	31-May-2011	01-Jun-2011	01-Jun-2011	01-Jun-2011	17-Jun-2011	31-May-2011	01-Jun-2011
Dissolved Metals by ICP-MS								17-Jun-2011		
Easily Liberated Sulphide	01-Jun-2011	02-Jun-2011		01-Jun-2011		02-Jun-2011			02-Jun-2011	
EPH CWG (Aliphatic) Aqueous GC (W)								22-Jun-2011		
EPH CWG (Aliphatic) GC (S)			02-Jun-2011		02-Jun-2011			02-Jun-2011		
EPH CWG (Aromatic) Aqueous GC (W)								22-Jun-2011		
EPH CWG (Aromatic) GC (S)			02-Jun-2011		02-Jun-2011			02-Jun-2011		
GRO by GC-FID (S)			02-Jun-2011		02-Jun-2011			02-Jun-2011		
GRO by GC-FID (W)								23-Jun-2011		
Hexavalent Chromium (s)	02-Jun-2011	02-Jun-2011	02-Jun-2011	02-Jun-2011	02-Jun-2011	02-Jun-2011	02-Jun-2011	02-Jun-2011	02-Jun-2011	02-Jun-2011
Hexavalent Chromium (w)								17-Jun-2011		
Mercury Dissolved								20-Jun-2011		
Metals by iCap-OES (Soil)	01-Jun-2011	01-Jun-2011	02-Jun-2011	01-Jun-2011	02-Jun-2011	01-Jun-2011	01-Jun-2011	02-Jun-2011	01-Jun-2011	02-Jun-2011
PAH by GCMS	02-Jun-2011	02-Jun-2011		02-Jun-2011		02-Jun-2011			02-Jun-2011	
PAH Spec MS - Aqueous (W)								21-Jun-2011		
PCBs by GCMS		29-May-2011	02-Jun-2011		02-Jun-2011			02-Jun-2011		
pH	01-Jun-2011	01-Jun-2011	01-Jun-2011	01-Jun-2011	01-Jun-2011	01-Jun-2011	01-Jun-2011	01-Jun-2011	01-Jun-2011	01-Jun-2011
pH Value								20-Jun-2011		
Phenols by HPLC (S)	27-May-2011	27-May-2011	02-Jun-2011	27-May-2011	02-Jun-2011	27-May-2011	27-May-2011	02-Jun-2011	31-May-2011	02-Jun-2011
Phenols by HPLC (W)								20-Jun-2011		
Sample description	24-May-2011	24-May-2011	31-May-2011	31-May-2011	31-May-2011	24-May-2011	24-May-2011	31-May-2011	24-May-2011	31-May-2011
Semi Volatile Organic Compounds			01-Jun-2011		01-Jun-2011		31-May-2011	01-Jun-2011		01-Jun-2011
Sulphide								20-Jun-2011		
Total Organic Carbon	01-Jun-2011			01-Jun-2011			01-Jun-2011		01-Jun-2011	01-Jun-2011
Total Sulphate	31-May-2011	31-May-2011	02-Jun-2011	31-May-2011	01-Jun-2011	31-May-2011	31-May-2011	02-Jun-2011	31-May-2011	01-Jun-2011
Total Sulphur	31-May-2011	31-May-2011		31-May-2011		31-May-2011			31-May-2011	
TPH CWG (W)								23-Jun-2011		
TPH CWG GC (S)			02-Jun-2011		02-Jun-2011			02-Jun-2011		
VOC MS (S)			01-Jun-2011		02-Jun-2011			02-Jun-2011		

SDG:	110523-40	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	135537
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	132894

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	DIC OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GCMS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MINOIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GCMS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GCMS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH-MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS/MS	DCM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials or those identified as potentially asbestos containing during sample description which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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Wardell Armstrong LLP
Unit 4 Newton Business Centre
Thorncliffe Park
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S35 2PH

Attention: James Lymer

CERTIFICATE OF ANALYSIS

Date:	01 June 2011
Customer:	H_WARDELL_SHF
Sample Delivery Group (SDG):	110521-14
Your Reference:	SH10534
Location:	
Report No:	131526

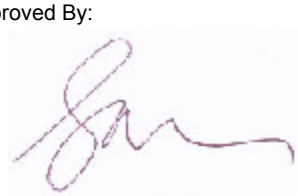
We received 2 samples on Friday May 20, 2011 and 2 of these samples were scheduled for analysis which was completed on Wednesday June 01, 2011. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Asbestos testing - we are not accredited for screening soil samples for asbestos fibres. We are only accredited to identify asbestos fibres in bulk material (ACM).

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	110521-14	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	131526
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
3508811	WS105			19/05/2011
3508812	WS110			19/05/2011

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	110521-14	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	131526
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	

LIQUID

Results Legend

X Test

N No Determination Possible

			Lab Sample No(s)						Customer Sample Reference						AGS Reference						Depth (m)						Container					
			3508811			3508812			WS105			WS110																				
			1l green glass bottle	1lplastic	Vial	1l green glass bottle	1lplastic	Vial																								
Anions by Kone (w)	All	NDPs: 0 Tests: 2		X			X																								
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 2	X			X																									
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 2		X			X																								
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 0 Tests: 2	X			X																									
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 0 Tests: 2	X			X																									
Free Sulphur	All	NDPs: 0 Tests: 2	X			X																									
GRO by GC-FID (W)	All	NDPs: 0 Tests: 2			X			X																							
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 2		X			X																								
Mercury Dissolved	All	NDPs: 0 Tests: 2	X			X																									
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 2		X			X																								
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 2	X			X																									
pH Value	All	NDPs: 0 Tests: 2		X			X																								
Phenols by HPLC (W)	All	NDPs: 0 Tests: 2	X			X																									
Sulphide	All	NDPs: 0 Tests: 2		X			X																								
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 2	X			X																									

CERTIFICATE OF ANALYSIS

SDG:	110521-14	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	131526
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	3508811			3508812		
			Customer Sample Reference	WS105			WS110		
			AGS Reference						
			Depth (m)						
			Container	1l green glass bottle	1lplastic	Vial	1l green glass bottle	1lplastic	Vial
TPH CWG (W)	All	NDPs: 0 Tests: 2		X			X		
VOC MS (W)	All	NDPs: 0 Tests: 2				X			X

CERTIFICATE OF ANALYSIS

SDG:	110521-14	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	131526
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	WS105	WS110
			Depth (m)	-	-
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/05/2011	19/05/2011
			Date Received	20/05/2011	20/05/2011
			SDG Ref	110521-14	110521-14
			Lab Sample No.(s)	3508811	3508812
			AGS Reference		
Sulphide	<0.01 mg/l	TM101		<0.01 #	<0.01 #
Arsenic (diss.filt)	<0.12 µg/l	TM152		0.693 #	0.834 #
Boron (diss.filt)	<9.4 µg/l	TM152		59.3 #	108 #
Cadmium (diss.filt)	<0.1 µg/l	TM152		<0.1 #	0.102 #
Chromium (diss.filt)	<0.22 µg/l	TM152		9.8 #	9.74 #
Copper (diss.filt)	<0.85 µg/l	TM152		2.43 #	3.8 #
Lead (diss.filt)	<0.02 µg/l	TM152		0.231 #	0.161 #
Nickel (diss.filt)	<0.15 µg/l	TM152		18.5 #	8.9 #
Selenium (diss.filt)	<0.39 µg/l	TM152		0.842 #	0.779 #
Zinc (diss.filt)	<0.41 µg/l	TM152		13.3 #	2.09 #
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	<0.01 #
Sulphate	<2 mg/l	TM184		147 #	90.4 #
Cyanide, Total	<0.05 mg/l	TM227		<0.05 #	<0.05 #
Cyanide, Free	<0.05 mg/l	TM227		<0.05 #	<0.05 #
Thiocyanate	<0.05 mg/l	TM227		<0.05 #	<0.05 #
Hardness, Total as CaCO3	<1 mg/l	TM228		466 #	399 #
Chromium, Hexavalent	<0.03 mg/l	TM241		0.035	0.054
pH	<1 pH Units	TM256		7.46 #	7.13 #
Phenol	<0.002 mg/l	TM259		<0.002 #	<0.002 #
Cresols	<0.006 mg/l	TM259		<0.006 #	<0.006 #
Xylenols	<0.008 mg/l	TM259		<0.008 #	<0.008 #
1-Naphthol	<0.01 mg/l	TM259		<0.01	<0.01
2,3,5-Trimethylphenol	<0.003 mg/l	TM259		<0.003 #	<0.003 #
Phenols, Total Detected 5 speciated	mg/l	TM259		<0.013	<0.013
Sulphur, Free	<0.05 mg/l	TM294		<0.05	<0.05

CERTIFICATE OF ANALYSIS

SDG:	110521-14	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	131526
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	

PAH Spec MS - Aqueous (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	WS105	WS110
			Depth (m)	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/05/2011	19/05/2011
			Date Received	20/05/2011	20/05/2011
			SDG Ref	110521-14	110521-14
			Lab Sample No.(s)	3508811	3508812
			AGS Reference		
Naphthalene (aq)	<0.1 µg/l	TM178		<0.1 #	1.22 #
Acenaphthene (aq)	<0.015 µg/l	TM178		<0.015 #	0.0228 #
Acenaphthylene (aq)	<0.011 µg/l	TM178		<0.011 #	<0.011 #
Fluoranthene (aq)	<0.017 µg/l	TM178		<0.017 #	<0.017 #
Anthracene (aq)	<0.015 µg/l	TM178		<0.015 #	<0.015 #
Phenanthrene (aq)	<0.022 µg/l	TM178		<0.022 #	<0.022 #
Fluorene (aq)	<0.014 µg/l	TM178		<0.014 #	<0.014 #
Chrysene (aq)	<0.013 µg/l	TM178		<0.013 #	<0.013 #
Pyrene (aq)	<0.015 µg/l	TM178		<0.015 #	<0.015 #
Benzo(a)anthracene (aq)	<0.017 µg/l	TM178		<0.017 #	<0.017 #
Benzo(b)fluoranthene (aq)	<0.023 µg/l	TM178		<0.023 #	<0.023 #
Benzo(k)fluoranthene (aq)	<0.027 µg/l	TM178		<0.027 #	<0.027 #
Benzo(a)pyrene (aq)	<0.009 µg/l	TM178		<0.009 #	<0.009 #
Dibenzo(a,h)anthracene (aq)	<0.016 µg/l	TM178		<0.016 #	<0.016 #
Benzo(g,h,i)perylene (aq)	<0.016 µg/l	TM178		<0.016 #	<0.016 #
Indeno(1,2,3-cd)pyrene (aq)	<0.014 µg/l	TM178		<0.014 #	<0.014 #
PAH, Total Detected USEPA 16 (aq)	µg/l	TM178		<0.17	1.24

CERTIFICATE OF ANALYSIS

SDG:	110521-14	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	131526
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	WS105	WS110				
			Depth (m)	-	-				
			Sample Type	Water(GW/SW)	Water(GW/SW)				
			Date Sampled	19/05/2011	19/05/2011				
			Date Received	20/05/2011	20/05/2011				
			SDG Ref	110521-14	110521-14				
			Lab Sample No.(s)	3508811	3508812				
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1	<1				
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1				
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1				
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1				
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1				
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1				
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1	<1				
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1	<1				
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1				
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1				
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1	<1				
2-Chlorophenol (aq)	<1 µg/l	TM176		<1	<1				
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1	<1				
2-Methylphenol (aq)	<1 µg/l	TM176		<1	<1				
2-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1				
2-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1				
3-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1				
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1	<1				
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1	<1				
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1				
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1	<1				
4-Methylphenol (aq)	<1 µg/l	TM176		<1	<1				
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1				
4-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1				
Azobenzene (aq)	<1 µg/l	TM176		<1	<1				
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1	<1				
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1	<1				
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		<2	<3				
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1	<1				
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1	<1				
Carbazole (aq)	<1 µg/l	TM176		<1	<1				
Dibenzofuran (aq)	<1 µg/l	TM176		<1	<1				
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1	<1				
Diethyl phthalate (aq)	<1 µg/l	TM176		<1	<1				
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1	<1				

CERTIFICATE OF ANALYSIS

SDG:	110521-14	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	131526
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	WS105	WS110				
			Depth (m)	-	-				
			Sample Type	Water(GW/SW)	Water(GW/SW)				
			Date Sampled	19/05/2011	19/05/2011				
			Date Received	20/05/2011	20/05/2011				
			SDG Ref	110521-14	110521-14				
			Lab Sample No.(s)	3508811	3508812				
			AGS Reference						
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5	<5				
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1	<1				
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1	<1				
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1				
Phenol (aq)	<1 µg/l	TM176		<1	<1				
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1	<1				
Hexachloroethane (aq)	<1 µg/l	TM176		<1	<1				
Nitrobenzene (aq)	<1 µg/l	TM176		<1	<1				
Isophorone (aq)	<1 µg/l	TM176		<1	<1				
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1				
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1	<1				
SVOC TIC (aq)	-	TM176		No TICs identified	No TICs identified				

CERTIFICATE OF ANALYSIS

SDG:	110521-14	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	131526
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	

TPH CWG (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	WS105	WS110
			Depth (m)	-	-
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/05/2011	19/05/2011
			Date Received	20/05/2011	20/05/2011
			SDG Ref	110521-14	110521-14
			Lab Sample No.(s)	3508811	3508812
			AGS Reference		
GRO Surrogate % recovery**	%	TM245		90 §	91 §
GRO >C5-C12	<50 µg/l	TM245		<50 §	<50 §
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245		<3 §	<3 §
Benzene	<7 µg/l	TM245		<7 §	<7 §
Toluene	<4 µg/l	TM245		<4 §	<4 §
Ethylbenzene	<5 µg/l	TM245		<5 §	<5 §
m,p-Xylene	<8 µg/l	TM245		<8 §	<8 §
o-Xylene	<3 µg/l	TM245		<3 §	<3 §
Sum of detected Xylenes	µg/l	TM245		none detected §	none detected §
Sum of detected BTEX	µg/l	TM245		none detected §	none detected §
Aliphatics >C5-C6	<10 µg/l	TM245		<10 §	<10 §
Aliphatics >C6-C8	<10 µg/l	TM245		<10 §	<10 §
Aliphatics >C8-C10	<10 µg/l	TM245		<10 §	<10 §
Aliphatics >C10-C12	<10 µg/l	TM245		<10 §	<10 §
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174		<10	<10
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174		<10	<10
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174		<10	<10
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174		<10	<10
Aromatics >EC5-EC7	<10 µg/l	TM245		<10 §	<10 §
Aromatics >EC7-EC8	<10 µg/l	TM245		<10 §	<10 §
Aromatics >EC8-EC10	<10 µg/l	TM245		<10 §	<10 §
Aromatics >EC10-EC12	<10 µg/l	TM245		<10 §	<10 §
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174		<10	<10
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174		<10	<10
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174		<10	17
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174		<10	17
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174		<10	18

CERTIFICATE OF ANALYSIS

SDG:	110521-14	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	131526
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	WS105	WS110
			Depth (m)	-	-
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/05/2011	19/05/2011
			Date Received	20/05/2011	20/05/2011
			SDG Ref	110521-14	110521-14
			Lab Sample No.(s)	3508811	3508812
			AGS Reference		
Dibromofluoromethane**	%	TM208		106	106
Toluene-d8**	%	TM208		99.7	97.8
4-Bromofluorobenzene**	%	TM208		96	91.2
Dichlorodifluoromethane	<7 µg/l	TM208		<7 #	<7 #
Chloromethane	<9 µg/l	TM208		<9 #	<9 #
Vinyl chloride	<1.2 µg/l	TM208		<1.2 #	<1.2 #
Bromomethane	<2 µg/l	TM208		<2 #	<2 #
Chloroethane	<2.5 µg/l	TM208		<2.5 #	<2.5 #
Trichlorofluoromethane	<1.3 µg/l	TM208		<1.3 #	<1.3 #
1,1-Dichloroethene	<1.2 µg/l	TM208		<1.2 #	<1.2 #
Carbon disulphide	<1.3 µg/l	TM208		<1.3 #	<1.3 #
Dichloromethane	<3.7 µg/l	TM208		<3.7 #	<3.7 #
Methyl tertiary butyl ether (MTBE)	<1.6 µg/l	TM208		<1.6 #	<1.6 #
trans-1,2-Dichloroethene	<1.9 µg/l	TM208		<1.9 #	<1.9 #
1,1-Dichloroethane	<1.2 µg/l	TM208		<1.2 #	<1.2 #
cis-1,2-Dichloroethene	<2.3 µg/l	TM208		<2.3 #	<2.3 #
2,2-Dichloropropane	<3.8 µg/l	TM208		<3.8 #	<3.8 #
Bromochloromethane	<1.9 µg/l	TM208		<1.9 #	<1.9 #
Chloroform	<1.8 µg/l	TM208		<1.8 #	<1.8 #
1,1,1-Trichloroethane	<1.3 µg/l	TM208		<1.3 #	<1.3 #
1,1-Dichloropropene	<1.3 µg/l	TM208		<1.3 #	<1.3 #
Carbontetrachloride	<1.4 µg/l	TM208		<1.4 #	<1.4 #
1,2-Dichloroethane	<3.3 µg/l	TM208		<3.3	<3.3
Benzene	<1.3 µg/l	TM208		<1.3 #	<1.3 #
Trichloroethene	<2.5 µg/l	TM208		<2.5 #	<2.5 #
1,2-Dichloropropane	<3 µg/l	TM208		<3 #	<3 #
Dibromomethane	<2.7 µg/l	TM208		<2.7 #	<2.7 #
Bromodichloromethane	<0.9 µg/l	TM208		<0.9 #	<0.9 #
cis-1,3-Dichloropropene	<1.9 µg/l	TM208		<1.9 #	<1.9 #
Toluene	<1.4 µg/l	TM208		<1.4 #	1.44 #
trans-1,3-Dichloropropene	<3.5 µg/l	TM208		<3.5 #	<3.5 #
1,1,2-Trichloroethane	<2.2 µg/l	TM208		<2.2 #	<2.2 #
1,3-Dichloropropane	<2.2 µg/l	TM208		<2.2 #	<2.2 #
Tetrachloroethene	<1.5 µg/l	TM208		<1.5 #	<1.5 #
Dibromochloromethane	<1.7 µg/l	TM208		<1.7 #	<1.7 #

CERTIFICATE OF ANALYSIS

SDG:	110521-14	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	131526
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	WS105	WS110
			Depth (m)	-	-
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	19/05/2011	19/05/2011
			Date Received	20/05/2011	20/05/2011
			SDG Ref	110521-14	110521-14
			Lab Sample No.(s)	3508811	3508812
			AGS Reference		
1,2-Dibromoethane	<2.3 µg/l	TM208		<2.3 #	<2.3 #
Chlorobenzene	<3.5 µg/l	TM208		<3.5 #	<3.5 #
1,1,1,2-Tetrachloroethane	<1.3 µg/l	TM208		<1.3 #	<1.3 #
Ethylbenzene	<2.5 µg/l	TM208		<2.5 #	<2.5 #
m,p-Xylene	<2.5 µg/l	TM208		<2.5 #	<2.5 #
o-Xylene	<1.7 µg/l	TM208		<1.7 #	<1.7 #
Styrene	<1.2 µg/l	TM208		<1.2 #	<1.2 #
Bromoform	<3 µg/l	TM208		<3 #	<3 #
Isopropylbenzene	<1.4 µg/l	TM208		<1.4 #	<1.4 #
1,1,2,2-Tetrachloroethane	<5.2 µg/l	TM208		<5.2	<5.2
1,2,3-Trichloropropane	<7.8 µg/l	TM208		<7.8 #	<7.8 #
Bromobenzene	<2 µg/l	TM208		<2 #	<2 #
Propylbenzene	<2.6 µg/l	TM208		<2.6 #	<2.6 #
2-Chlorotoluene	<1.9 µg/l	TM208		<1.9 #	<1.9 #
1,3,5-Trimethylbenzene	<1.8 µg/l	TM208		<1.8 #	<1.8 #
4-Chlorotoluene	<1.9 µg/l	TM208		<1.9 #	<1.9 #
tert-Butylbenzene	<2 µg/l	TM208		<2 #	<2 #
1,2,4-Trimethylbenzene	<1.7 µg/l	TM208		<1.7 #	<1.7 #
sec-Butylbenzene	<1.7 µg/l	TM208		<1.7 #	<1.7 #
4-iso-Propyltoluene	<2.6 µg/l	TM208		<2.6 #	<2.6 #
1,3-Dichlorobenzene	<2.2 µg/l	TM208		<2.2 #	<2.2 #
1,4-Dichlorobenzene	<2.7 µg/l	TM208		<2.7 #	<2.7 #
n-Butylbenzene	<2 µg/l	TM208		<2 #	<2 #
1,2-Dichlorobenzene	<3.7 µg/l	TM208		<3.7	<3.7
1,2-Dibromo-3-chloropropane	<9.8 µg/l	TM208		<9.8	<9.8
1,2,4-Trichlorobenzene	<2.3 µg/l	TM208		<2.3 #	<2.3 #
Hexachlorobutadiene	<2.5 µg/l	TM208		<2.5 #	<2.5 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208		<1 #	<1 #
Naphthalene	<3.5 µg/l	TM208		<3.5 #	<3.5 #
1,2,3-Trichlorobenzene	<3.1 µg/l	TM208		<3.1 #	<3.1 #
1,3,5-Trichlorobenzene	<10 µg/l	TM208		<10	<10
VOC TIC	-	TM208		No TICs identified	No TICs identified
Total Xylenes	µg/l	TM208		<5	<5

CERTIFICATE OF ANALYSIS

SDG:	110521-14	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	131526
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	

Notification of Non-Conforming Work

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
3508816	WS105		LIQUID	GRO by GC-FID (W)	Aliphatics >C10-C12	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	Aliphatics >C5-C6	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	Aliphatics >C6-C8	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	Aliphatics >C8-C10	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	Aromatics >EC10-EC12	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	Aromatics >EC5-EC7	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	Aromatics >EC7-EC8	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	Aromatics >EC8-EC10	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	Benzene	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	EPH (C6-C10)	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	EPH (C6-C10) mg/l	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	Ethylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	GRO >C10-C12	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	GRO >C5-C10	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	GRO >C5-C12	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	GRO >C5-C6	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	GRO >C6-C7	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	GRO >C6-C8	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	GRO >C7-C8	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	GRO >C8-C10	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	GRO QC	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	GRO Surrogate % recovery**	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	m,p-Xylene	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	Methyl tertiary butyl ether (MTBE)	Volatile Analysis performed on vessel with headspace due testing requirement

CERTIFICATE OF ANALYSIS

SDG:	110521-14	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	131526
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
3508816	WS105		LIQUID	GRO by GC-FID (W)	o-Xylene	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	QC raw	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	Sum of detected BTEX	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	Sum of detected Xylenes	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	tert-Amyl methyl ether (TAME)	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	Toluene	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	Total Aliphatics >C5-C12	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	Total Aromatics >EC5-EC12	Volatile Analysis performed on vessel with headspace due testing requirement
3508816	WS105		LIQUID	GRO by GC-FID (W)	Trace	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	Aliphatics >C10-C12	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	Aliphatics >C5-C6	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	Aliphatics >C6-C8	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	Aliphatics >C8-C10	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	Aromatics >EC10-EC12	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	Aromatics >EC5-EC7	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	Aromatics >EC7-EC8	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	Aromatics >EC8-EC10	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	Benzene	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	EPH (C6-C10)	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	EPH (C6-C10) mg/l	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	Ethylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	GRO >C10-C12	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	GRO >C5-C10	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	GRO >C5-C12	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	GRO >C5-C6	Volatile Analysis performed on vessel with headspace due testing requirement

CERTIFICATE OF ANALYSIS

SDG:	110521-14	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	131526
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
3508823	WS110		LIQUID	GRO by GC-FID (W)	GRO >C6-C7	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	GRO >C6-C8	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	GRO >C7-C8	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	GRO >C8-C10	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	GRO QC	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	GRO Surrogate % recovery**	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	m,p-Xylene	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	Methyl tertiary butyl ether (MTBE)	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	o-Xylene	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	QC raw	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	Sum of detected BTEX	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	Sum of detected Xylenes	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	tert-Amyl methyl ether (TAME)	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	Toluene	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	Total Aliphatics >C5-C12	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	Total Aromatics >EC5-EC12	Volatile Analysis performed on vessel with headspace due testing requirement
3508823	WS110		LIQUID	GRO by GC-FID (W)	Trace	Volatile Analysis performed on vessel with headspace due testing requirement

Note : Test results may be invalid

CERTIFICATE OF ANALYSIS

SDG:	110521-14	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	131526
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	

Table of Results - Appendix

REPORT KEY

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03x10-7

NDP	No Determination Possible	#	ISO 17025 Accredited	*	Subcontracted Test	M	MCERTS Accredited
NFD	No Fibres Detected	PFD	Possible Fibres Detected	»	Result previously reported (Incremental reports only)	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control

Method No	Reference	Description	Wet/Dry Sample ¹	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM174	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters		
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters		
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate		
TM228	US EPA Method 6010B	Determination of Major Cations in Water by iCap 6500 Duo ICP-OES		
TM241	Methods for the Examination of Waters and Associated Materials; Chromium in Raw and Potable Waters and Sewage Effluents 1980.	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser		
TM245	By GC-FID	Determination of GRO by Headspace in waters		
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter		
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC		
TM294				

¹ Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	110521-14	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	131526
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	3508811	3508812
Customer Sample Ref.	WS105	WS110
AGS Ref.		
Depth		
Type	LIQUID	LIQUID
Anions by Kone (w)	27-May-2011	27-May-2011
Cyanide Comp/Free/Total/Thiocyanate	27-May-2011	27-May-2011
Dissolved Metals by ICP-MS	25-May-2011	25-May-2011
EPH CWG (Aliphatic) Aqueous GC (W)	31-May-2011	31-May-2011
EPH CWG (Aromatic) Aqueous GC (W)	31-May-2011	31-May-2011
Free Sulphur	01-Jun-2011	01-Jun-2011
GRO by GC-FID (W)	28-May-2011	28-May-2011
Hexavalent Chromium (w)	24-May-2011	24-May-2011
Mercury Dissolved	25-May-2011	25-May-2011
Metals by iCap-OES Dissolved (W)	25-May-2011	25-May-2011
PAH Spec MS - Aqueous (W)	31-May-2011	26-May-2011
pH Value	24-May-2011	24-May-2011
Phenols by HPLC (W)	25-May-2011	25-May-2011
Sulphide	01-Jun-2011	01-Jun-2011
SVOC MS (W) - Aqueous	28-May-2011	28-May-2011
TPH CWG (W)	31-May-2011	31-May-2011
VOC MS (W)	26-May-2011	26-May-2011

SDG:	110521-14	**Location:**		**Order Number:**	SH3068
Job:	H_WARDELL_SHF-37	**Customer:**	Wardell Armstrong LLP	**Report Number:**	131526
Client Reference:	SH10534	**Attention:**	Mike Kelly	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	DIC OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GCMS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVEREND	GCFID
EPH (MINOIL)	D&C	HEXANE/ACETONE	END OVEREND	GCFID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVEREND	GCFID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVEREND	GCFID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVEREND	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GCMS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GCEZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GCEZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GCMS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS MS	DCM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials

The results for asbestos identification for soil samples are obtained from possible Asbestos Containing Material, removed during the 'Screening of soils for Asbestos Containing Materials', which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

ALcontrol Laboratories

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Wardell Armstrong LLP
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Thorncliffe Park
Sheffield
South Yorkshire
S35 2PH

Attention: Joanne Shaw

CERTIFICATE OF ANALYSIS

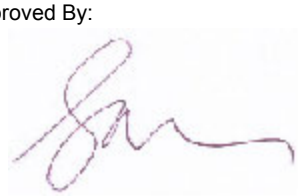
Date:	13 June 2011
Customer:	H_WARDELL_SHF
Sample Delivery Group (SDG):	110602-86
Your Reference:	SH10534
Location:	North Bierley
Report No:	133631

We received 3 samples on Thursday June 02, 2011 and 3 of these samples were scheduled for analysis which was completed on Monday June 13, 2011. Accredited laboratory tests are defined within the report, but opinions, interpretations and on-site data expressed herein are outside the scope of ISO 17025 accreditation.

Should this report require incorporation into client reports, it must be used in its entirety and not simply with the data sections alone.

All chemical testing (unless subcontracted) is performed at ALcontrol Hawarden Laboratories.

Approved By:



Sonia McWhan

Operations Manager

CERTIFICATE OF ANALYSIS

SDG:	110602-86	**Location:**	North Bierley	**Order Number:**	SH3068
Job:	H_WARDELL_SHF-38	**Customer:**	Wardell Armstrong LLP	**Report Number:**	133631
Client Reference:	SH10534	**Attention:**	Joanne Shaw	**Superseded Report:**	

Received Sample Overview

Lab Sample No(s)	Customer Sample Ref.	AGS Ref.	Depth (m)	Sampled Date
3589940	BH5			01/06/2011
3589941	BH6			01/06/2011
3589939	WS102			01/06/2011

Only received samples which have had analysis scheduled will be shown on the following pages.

CERTIFICATE OF ANALYSIS

SDG:	110602-86	**Location:**	North Bierley	**Order Number:**	SH3068
Job:	H_WARDELL_SHF-38	**Customer:**	Wardell Armstrong LLP	**Report Number:**	133631
Client Reference:	SH10534	**Attention:**	Joanne Shaw	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)								
			3589940		3589941			3589939			
			Customer Sample Reference		BH5		BH6			WS102	
			AGS Reference								
			Depth (m)								
			Container	1l green glass bottle	1lplastic	Vial	1l green glass bottle	Vial		1l green glass bottle	Vial
Anions by Kone (w)	All	NDPs: 0 Tests: 2			X		X				
Cyanide Comp/Free/Total/Thiocyanate	All	NDPs: 0 Tests: 2		X			X				
Dissolved Metals by ICP-MS	All	NDPs: 0 Tests: 2			X		X				
EPH CWG (Aliphatic) Aqueous GC (W)	All	NDPs: 1 Tests: 2		X			X			N	
EPH CWG (Aromatic) Aqueous GC (W)	All	NDPs: 1 Tests: 2		X			X			N	
Free Sulphur	All	NDPs: 0 Tests: 2		X			X				
GRO by GC-FID (W)	All	NDPs: 0 Tests: 3				X		X			X
Hexavalent Chromium (w)	All	NDPs: 0 Tests: 2			X		X				
Mercury Dissolved	All	NDPs: 0 Tests: 2		X			X				
Metals by iCap-OES Dissolved (W)	All	NDPs: 0 Tests: 2			X		X				
PAH Spec MS - Aqueous (W)	All	NDPs: 0 Tests: 2		X			X				
pH Value	All	NDPs: 0 Tests: 2			X		X				
Phenols by HPLC (W)	All	NDPs: 0 Tests: 2		X			X				
Sulphide	All	NDPs: 0 Tests: 2			X		X				
SVOC MS (W) - Aqueous	All	NDPs: 0 Tests: 3		X			X			X	

CERTIFICATE OF ANALYSIS

SDG:	110602-86	**Location:**	North Bierley	**Order Number:**	SH3068
Job:	H_WARDELL_SHF-38	**Customer:**	Wardell Armstrong LLP	**Report Number:**	133631
Client Reference:	SH10534	**Attention:**	Joanne Shaw	**Superseded Report:**	

LIQUID

Results Legend

X **Test**

N **No Determination Possible**

			Lab Sample No(s)	Customer Sample Reference	AGS Reference	Depth (m)	Container
			3589940	BH5			1l green glass bottle
			3589940	BH5			1lplastic
			3589940	BH5			Vial
			3589941	BH6			1l green glass bottle
			3589941	BH6			Vial
			3589939	WS102			1l green glass bottle
			3589939	WS102			Vial
TPH CWG (W)	All	NDPs: 1 Tests: 2	X		X		N
VOC MS (W)	All	NDPs: 0 Tests: 2		X		X	

CERTIFICATE OF ANALYSIS

SDG:	110602-86	**Location:**	North Bierley	**Order Number:**	SH3068
Job:	H_WARDELL_SHF-38	**Customer:**	Wardell Armstrong LLP	**Report Number:**	133631
Client Reference:	SH10534	**Attention:**	Joanne Shaw	**Superseded Report:**	

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BH5	BH6
			Depth (m)	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	01/06/2011	01/06/2011
			Date Received	02/06/2011	02/06/2011
			SDG Ref	110602-86	110602-86
			Lab Sample No.(s)	3589940	3589941
			AGS Reference		
Sulphide	<0.01 mg/l	TM101		<0.1 #	<0.25 #
Arsenic (diss.filt)	<0.12 µg/l	TM152		3.08 #	2.31 #
Boron (diss.filt)	<9.4 µg/l	TM152		69.8 #	56.3 #
Cadmium (diss.filt)	<0.1 µg/l	TM152		<0.1 #	0.346 #
Chromium (diss.filt)	<0.22 µg/l	TM152		29.1 #	6.14 #
Copper (diss.filt)	<0.85 µg/l	TM152		7.35 #	2.66 #
Lead (diss.filt)	<0.02 µg/l	TM152		0.065 #	0.146 #
Nickel (diss.filt)	<0.15 µg/l	TM152		11.5 #	50.2 #
Selenium (diss.filt)	<0.39 µg/l	TM152		2.66 #	4.44 #
Zinc (diss.filt)	<0.41 µg/l	TM152		2.54 #	10.5 #
Mercury (diss.filt)	<0.01 µg/l	TM183		<0.01 #	<0.01 #
Sulphate	<2 mg/l	TM184		71.4 #	884 #
Cyanide, Total	<0.05 mg/l	TM227		<0.05 #	<0.05 #
Cyanide, Free	<0.05 mg/l	TM227		<0.05 #	<0.05 #
Thiocyanate	<0.05 mg/l	TM227		<0.05 #	<0.05 #
Hardness, Total as CaCO3	<1 mg/l	TM228		502 #	1220 #
Chromium, Hexavalent	<0.03 mg/l	TM241		<0.03	<0.03
pH	<1 pH Units	TM256		8.43 #	7.99 #
Phenol	<0.002 mg/l	TM259		<0.002 #	<0.002 #
Cresols	<0.006 mg/l	TM259		<0.006 #	<0.006 #
Xylenols	<0.008 mg/l	TM259		<0.008 #	<0.008 #
1-Naphthol	<0.01 mg/l	TM259		<0.01	<0.01
2,3,5-Trimethylphenol	<0.003 mg/l	TM259		<0.003 #	<0.003 #
Phenols, Total Detected 5 speciated	mg/l	TM259		none detected	none detected
Sulphur, Free	<0.05 mg/l	TM294		<0.05	<0.188

CERTIFICATE OF ANALYSIS

SDG:	110602-86	**Location:**	North Bierley	**Order Number:**	SH3068
Job:	H_WARDELL_SHF-38	**Customer:**	Wardell Armstrong LLP	**Report Number:**	133631
Client Reference:	SH10534	**Attention:**	Joanne Shaw	**Superseded Report:**	

GRO by GC-FID (W)

Results Legend		Customer Sample R	WS102
#	ISO17025 accredited.		
M	mCERTS accredited.		
§	Non-conforming work.		
aq	Aqueous / settled sample.	Depth (m)	.
diss.filt	Dissolved / filtered sample.	Sample Type	Water(GW/SW)
tot.unfilt	Total / unfiltered sample.	Date Sampled	01/06/2011
*	Subcontracted test.	Date Received	02/06/2011
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery	SDG Ref	110602-86
		Lab Sample No.(s)	3589939
(F)	Trigger breach confirmed	AGS Reference	

Component	LOD/Units	Method					
GRO Surrogate % recovery**	%	TM245	96				
GRO >C5-C12	<50 µg/l	TM245	<50 #				
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245	<3 #				
Benzene	<7 µg/l	TM245	<7 #				
Toluene	<4 µg/l	TM245	<4 #				
Ethylbenzene	<5 µg/l	TM245	<5 #				
m,p-Xylene	<8 µg/l	TM245	<8 #				
o-Xylene	<3 µg/l	TM245	<3 #				
Sum of detected Xylenes	µg/l	TM245	none detected				
Sum of detected BTEX	µg/l	TM245	none detected				
Aliphatics >C5-C6	<10 µg/l	TM245	<10				
Aliphatics >C6-C8	<10 µg/l	TM245	<10				
Aliphatics >C8-C10	<10 µg/l	TM245	<10				
Aliphatics >C10-C12	<10 µg/l	TM245	<10				
Aromatics >EC5-EC7	<10 µg/l	TM245	<10				
Aromatics >EC7-EC8	<10 µg/l	TM245	<10				
Aromatics >EC8-EC10	<10 µg/l	TM245	<10				
Aromatics >EC10-EC12	<10 µg/l	TM245	<10				

CERTIFICATE OF ANALYSIS

SDG:	110602-86	**Location:**	North Bierley	**Order Number:**	SH3068
Job:	H_WARDELL_SHF-38	**Customer:**	Wardell Armstrong LLP	**Report Number:**	133631
Client Reference:	SH10534	**Attention:**	Joanne Shaw	**Superseded Report:**	

PAH Spec MS - Aqueous (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BH5	BH6
			Depth (m)	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	01/06/2011	01/06/2011
			Date Received	02/06/2011	02/06/2011
			SDG Ref	110602-86	110602-86
			Lab Sample No.(s)	3589940	3589941
			AGS Reference		
Naphthalene (aq)	<0.1 µg/l	TM178		0.383 #	<0.1 #
Acenaphthene (aq)	<0.015 µg/l	TM178		0.562 #	0.079 #
Acenaphthylene (aq)	<0.011 µg/l	TM178		0.0318 #	<0.011 #
Fluoranthene (aq)	<0.017 µg/l	TM178		2.91 #	0.268 #
Anthracene (aq)	<0.015 µg/l	TM178		0.416 #	0.08 #
Phenanthrene (aq)	<0.022 µg/l	TM178		1.02 #	0.351 #
Fluorene (aq)	<0.014 µg/l	TM178		0.287 #	0.0599 #
Chrysene (aq)	<0.013 µg/l	TM178		1.75 #	0.0547 #
Pyrene (aq)	<0.015 µg/l	TM178		2.75 #	0.225 #
Benzo(a)anthracene (aq)	<0.017 µg/l	TM178		1.89 #	0.0519 #
Benzo(b)fluoranthene (aq)	<0.023 µg/l	TM178		1.84 #	0.0402 #
Benzo(k)fluoranthene (aq)	<0.027 µg/l	TM178		2.34 #	0.0393 #
Benzo(a)pyrene (aq)	<0.009 µg/l	TM178		2.55 #	0.0414 #
Dibenzo(a,h)anthracene (aq)	<0.016 µg/l	TM178		0.369 #	<0.016 #
Benzo(g,h,i)perylene (aq)	<0.016 µg/l	TM178		1.2 #	0.0221 #
Indeno(1,2,3-cd)pyrene (aq)	<0.014 µg/l	TM178		1.06 #	0.016 #
PAH, Total Detected USEPA 16 (aq)	µg/l	TM178		21.4	1.33

CERTIFICATE OF ANALYSIS

SDG:	110602-86	**Location:**	North Bierley	**Order Number:**	SH3068
Job:	H_WARDELL_SHF-38	**Customer:**	Wardell Armstrong LLP	**Report Number:**	133631
Client Reference:	SH10534	**Attention:**	Joanne Shaw	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BH5	BH6	WS102			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	01/06/2011	01/06/2011	01/06/2011			
			Date Received	02/06/2011	02/06/2011	02/06/2011			
			SDG Ref	110602-86	110602-86	110602-86			
			Lab Sample No.(s)	3589940	3589941	3589939			
			AGS Reference						
1,2,4-Trichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
1,2-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
1,3-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
1,4-Dichlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4,5-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4,6-Trichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4-Dichlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4-Dimethylphenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2,4-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1			
2,6-Dinitrotoluene (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Chloronaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Chlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Methylnaphthalene (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
2-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
3-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Bromophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Chloro-3-methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Chloroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Chlorophenylphenylether (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Methylphenol (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Nitrophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
4-Nitroaniline (aq)	<1 µg/l	TM176		<1	<1	<1			
Azobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
Acenaphthylene (aq)	<1 µg/l	TM176		<1	<1	<1			
Acenaphthene (aq)	<1 µg/l	TM176		<1	<1	<1			
Anthracene (aq)	<1 µg/l	TM176		<1	<1	<1			
bis(2-Chloroethyl)ether (aq)	<1 µg/l	TM176		<1	<1	<1			
bis(2-Chloroethoxy)methane (aq)	<1 µg/l	TM176		<1	<1	<1			
bis(2-Ethylhexyl) phthalate (aq)	<2 µg/l	TM176		8.11	3.92	<2			
Benzo(a)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1			
Butylbenzyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1			
Benzo(b)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1			
Benzo(k)fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1			

CERTIFICATE OF ANALYSIS

SDG:	110602-86	**Location:**	North Bierley	**Order Number:**	SH3068
Job:	H_WARDELL_SHF-38	**Customer:**	Wardell Armstrong LLP	**Report Number:**	133631
Client Reference:	SH10534	**Attention:**	Joanne Shaw	**Superseded Report:**	

SVOC MS (W) - Aqueous

Results Legend	
#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BH5	BH6	WS102			
			Depth (m)	.	.	.			
			Sample Type	Water(GW/SW)	Water(GW/SW)	Water(GW/SW)			
			Date Sampled	01/06/2011	01/06/2011	01/06/2011			
			Date Received	02/06/2011	02/06/2011	02/06/2011			
			SDG Ref	110602-86	110602-86	110602-86			
			Lab Sample No.(s)	3589940	3589941	3589939			
			AGS Reference						
Benzo(a)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1			
Benzo(g,h,i)perylene (aq)	<1 µg/l	TM176		<1	<1	<1			
Carbazole (aq)	<1 µg/l	TM176		<1	<1	<1			
Chrysene (aq)	<1 µg/l	TM176		<1	<1	<1			
Dibenzofuran (aq)	<1 µg/l	TM176		<1	<1	<1			
n-Dibutyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1			
Diethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1			
Dibenzo(a,h)anthracene (aq)	<1 µg/l	TM176		<1	<1	<1			
Dimethyl phthalate (aq)	<1 µg/l	TM176		<1	<1	<1			
n-Dioctyl phthalate (aq)	<5 µg/l	TM176		<5	<5	<5			
Fluoranthene (aq)	<1 µg/l	TM176		<1	<1	<1			
Fluorene (aq)	<1 µg/l	TM176		<1	<1	<1			
Hexachlorobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
Hexachlorobutadiene (aq)	<1 µg/l	TM176		<1	<1	<1			
Pentachlorophenol (aq)	<1 µg/l	TM176		<1	<1	<1			
Phenol (aq)	<1 µg/l	TM176		<1	<1	<1			
n-Nitroso-n-dipropylamine (aq)	<1 µg/l	TM176		<1	<1	<1			
Hexachloroethane (aq)	<1 µg/l	TM176		<1	<1	<1			
Nitrobenzene (aq)	<1 µg/l	TM176		<1	<1	<1			
Naphthalene (aq)	<1 µg/l	TM176		<1	<1	<1			
Isophorone (aq)	<1 µg/l	TM176		<1	<1	<1			
Hexachlorocyclopentadiene (aq)	<1 µg/l	TM176		<1	<1	<1			
Phenanthrene (aq)	<1 µg/l	TM176		<1	<1	<1			
Indeno(1,2,3-cd)pyrene (aq)	<1 µg/l	TM176		<1	<1	<1			
Pyrene (aq)	<1 µg/l	TM176		<1	<1	<1			
SVOC TIC (aq)	-	TM176		See Attached	No TICs identified	No TICs identified			

CERTIFICATE OF ANALYSIS

SDG:	110602-86	**Location:**	North Bierley	**Order Number:**	SH3068
Job:	H_WARDELL_SHF-38	**Customer:**	Wardell Armstrong LLP	**Report Number:**	133631
Client Reference:	SH10534	**Attention:**	Joanne Shaw	**Superseded Report:**	

TPH CWG (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BH5	BH6				
			Depth (m)	.	.				
			Sample Type	Water(GW/SW)	Water(GW/SW)				
			Date Sampled	01/06/2011	01/06/2011				
			Date Received	02/06/2011	02/06/2011				
			SDG Ref	110602-86	110602-86				
			Lab Sample No.(s)	3589940	3589941				
			AGS Reference						
GRO Surrogate % recovery**	%	TM245		95	54 §				
GRO >C5-C12	<50 µg/l	TM245		<50 #	<50 §				
Methyl tertiary butyl ether (MTBE)	<3 µg/l	TM245		<3 #	<3 §				
Benzene	<7 µg/l	TM245		<7 #	<7 §				
Toluene	<4 µg/l	TM245		<4 #	8 §				
Ethylbenzene	<5 µg/l	TM245		<5 #	<5 §				
m,p-Xylene	<8 µg/l	TM245		<8 #	<8 §				
o-Xylene	<3 µg/l	TM245		<3 #	<3 §				
Sum of detected Xylenes	µg/l	TM245		none detected	none detected §				
Sum of detected BTEX	µg/l	TM245		none detected	8 §				
Aliphatics >C5-C6	<10 µg/l	TM245		<10	<10 §				
Aliphatics >C6-C8	<10 µg/l	TM245		<10	<10 §				
Aliphatics >C8-C10	<10 µg/l	TM245		<10	<10 §				
Aliphatics >C10-C12	<10 µg/l	TM245		<10	<10 §				
Aliphatics >C12-C16 (aq)	<10 µg/l	TM174		<10	155				
Aliphatics >C16-C21 (aq)	<10 µg/l	TM174		20	524				
Aliphatics >C21-C35 (aq)	<10 µg/l	TM174		216	3390				
Total Aliphatics >C12-C35 (aq)	<10 µg/l	TM174		236	4070				
Aromatics >EC5-EC7	<10 µg/l	TM245		<10	<10 §				
Aromatics >EC7-EC8	<10 µg/l	TM245		<10	<10 §				
Aromatics >EC8-EC10	<10 µg/l	TM245		<10	<10 §				
Aromatics >EC10-EC12	<10 µg/l	TM245		<10	<10 §				
Aromatics >EC12-EC16 (aq)	<10 µg/l	TM174		<10	83				
Aromatics >EC16-EC21 (aq)	<10 µg/l	TM174		<10	264				
Aromatics >EC21-EC35 (aq)	<10 µg/l	TM174		43	1870				
Total Aromatics >EC12-EC35 (aq)	<10 µg/l	TM174		43	2220				
Total Aliphatics & Aromatics >C5-35 (aq)	<10 µg/l	TM174		279	6300				

CERTIFICATE OF ANALYSIS

SDG:	110602-86	**Location:**	North Bierley	**Order Number:**	SH3068
Job:	H_WARDELL_SHF-38	**Customer:**	Wardell Armstrong LLP	**Report Number:**	133631
Client Reference:	SH10534	**Attention:**	Joanne Shaw	**Superseded Report:**	

VOC MS (W)

Results Legend

#	ISO17025 accredited.
M	*m*CERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BH5	BH6
			Depth (m)	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	01/06/2011	01/06/2011
			Date Received	02/06/2011	02/06/2011
			SDG Ref	110602-86	110602-86
			Lab Sample No.(s)	3589940	3589941
			AGS Reference		
Dibromofluoromethane**	%	TM208		104	105
Toluene-d8**	%	TM208		98.1	98.6
4-Bromofluorobenzene**	%	TM208		89.1	90.8
Dichlorodifluoromethane	<7 µg/l	TM208		<7 #	<7 #
Chloromethane	<9 µg/l	TM208		<9 #	<9 #
Vinyl chloride	<1.2 µg/l	TM208		<1.2 #	<1.2 #
Bromomethane	<2 µg/l	TM208		<2 #	<2 #
Chloroethane	<2.5 µg/l	TM208		<2.5 #	<2.5 #
Trichlorofluoromethane	<1.3 µg/l	TM208		<1.3 #	<1.3 #
1,1-Dichloroethene	<1.2 µg/l	TM208		<1.2 #	<1.2 #
Carbon disulphide	<1.3 µg/l	TM208		<1.3 #	<1.3 #
Dichloromethane	<3.7 µg/l	TM208		<3.7 #	<3.7 #
Methyl tertiary butyl ether (MTBE)	<1.6 µg/l	TM208		<1.6 #	<1.6 #
trans-1,2-Dichloroethene	<1.9 µg/l	TM208		<1.9 #	<1.9 #
1,1-Dichloroethane	<1.2 µg/l	TM208		<1.2 #	<1.2 #
cis-1,2-Dichloroethene	<2.3 µg/l	TM208		<2.3 #	<2.3 #
2,2-Dichloropropane	<3.8 µg/l	TM208		<3.8 #	<3.8 #
Bromochloromethane	<1.9 µg/l	TM208		<1.9 #	<1.9 #
Chloroform	<1.8 µg/l	TM208		<1.8 #	<1.8 #
1,1,1-Trichloroethane	<1.3 µg/l	TM208		<1.3 #	<1.3 #
1,1-Dichloropropene	<1.3 µg/l	TM208		<1.3 #	<1.3 #
Carbontetrachloride	<1.4 µg/l	TM208		<1.4 #	<1.4 #
1,2-Dichloroethane	<3.3 µg/l	TM208		<3.3	<3.3
Benzene	<1.3 µg/l	TM208		<1.3 #	<1.3 #
Trichloroethene	<2.5 µg/l	TM208		<2.5 #	<2.5 #
1,2-Dichloropropane	<3 µg/l	TM208		<3 #	<3 #
Dibromomethane	<2.7 µg/l	TM208		<2.7 #	<2.7 #
Bromodichloromethane	<0.9 µg/l	TM208		<0.9 #	<0.9 #
cis-1,3-Dichloropropene	<1.9 µg/l	TM208		<1.9 #	<1.9 #
Toluene	<1.4 µg/l	TM208		<1.4 #	<1.4 #
trans-1,3-Dichloropropene	<3.5 µg/l	TM208		<3.5 #	<3.5 #
1,1,2-Trichloroethane	<2.2 µg/l	TM208		<2.2 #	<2.2 #
1,3-Dichloropropane	<2.2 µg/l	TM208		<2.2 #	<2.2 #
Tetrachloroethene	<1.5 µg/l	TM208		<1.5 #	<1.5 #
Dibromochloromethane	<1.7 µg/l	TM208		<1.7 #	<1.7 #

CERTIFICATE OF ANALYSIS

SDG:	110602-86	**Location:**	North Bierley	**Order Number:**	SH3068
Job:	H_WARDELL_SHF-38	**Customer:**	Wardell Armstrong LLP	**Report Number:**	133631
Client Reference:	SH10534	**Attention:**	Joanne Shaw	**Superseded Report:**	

VOC MS (W)

Results Legend	
#	ISO17025 accredited.
M	mCERTS accredited.
§	Non-conforming work.
aq	Aqueous / settled sample.
diss.filt	Dissolved / filtered sample.
tot.unfilt	Total / unfiltered sample.
*	Subcontracted test.
**	% recovery of the surrogate standard to check the efficiency of the method. The results of individual compounds within samples aren't corrected for the recovery
(F)	Trigger breach confirmed

Component	LOD/Units	Method	Customer Sample R	BH5	BH6
			Depth (m)	.	.
			Sample Type	Water(GW/SW)	Water(GW/SW)
			Date Sampled	01/06/2011	01/06/2011
			Date Received	02/06/2011	02/06/2011
			SDG Ref	110602-86	110602-86
			Lab Sample No.(s)	3589940	3589941
			AGS Reference		
1,2-Dibromoethane	<2.3 µg/l	TM208		<2.3 #	<2.3 #
Chlorobenzene	<3.5 µg/l	TM208		<3.5 #	<3.5 #
1,1,1,2-Tetrachloroethane	<1.3 µg/l	TM208		<1.3 #	<1.3 #
Ethylbenzene	<2.5 µg/l	TM208		<2.5 #	<2.5 #
m,p-Xylene	<2.5 µg/l	TM208		<2.5 #	<2.5 #
o-Xylene	<1.7 µg/l	TM208		<1.7 #	<1.7 #
Styrene	<1.2 µg/l	TM208		<1.2 #	<1.2 #
Bromoform	<3 µg/l	TM208		<3 #	<3 #
Isopropylbenzene	<1.4 µg/l	TM208		<1.4 #	<1.4 #
1,1,2,2-Tetrachloroethane	<5.2 µg/l	TM208		<5.2	<5.2
1,2,3-Trichloropropane	<7.8 µg/l	TM208		<7.8 #	<7.8 #
Bromobenzene	<2 µg/l	TM208		<2 #	<2 #
Propylbenzene	<2.6 µg/l	TM208		<2.6 #	<2.6 #
2-Chlorotoluene	<1.9 µg/l	TM208		<1.9 #	<1.9 #
1,3,5-Trimethylbenzene	<1.8 µg/l	TM208		<1.8 #	<1.8 #
4-Chlorotoluene	<1.9 µg/l	TM208		<1.9 #	<1.9 #
tert-Butylbenzene	<2 µg/l	TM208		<2 #	<2 #
1,2,4-Trimethylbenzene	<1.7 µg/l	TM208		<1.7 #	<1.7 #
sec-Butylbenzene	<1.7 µg/l	TM208		<1.7 #	<1.7 #
4-iso-Propyltoluene	<2.6 µg/l	TM208		<2.6 #	<2.6 #
1,3-Dichlorobenzene	<2.2 µg/l	TM208		<2.2 #	<2.2 #
1,4-Dichlorobenzene	<2.7 µg/l	TM208		<2.7 #	<2.7 #
n-Butylbenzene	<2 µg/l	TM208		<2 #	<2 #
1,2-Dichlorobenzene	<3.7 µg/l	TM208		<3.7	<3.7
1,2-Dibromo-3-chloropropane	<9.8 µg/l	TM208		<9.8	<9.8
1,2,4-Trichlorobenzene	<2.3 µg/l	TM208		<2.3 #	<2.3 #
Hexachlorobutadiene	<2.5 µg/l	TM208		<2.5 #	<2.5 #
tert-Amyl methyl ether (TAME)	<1 µg/l	TM208		<1 #	<1 #
Naphthalene	<3.5 µg/l	TM208		<3.5 #	<3.5 #
1,2,3-Trichlorobenzene	<3.1 µg/l	TM208		<3.1 #	<3.1 #
1,3,5-Trichlorobenzene	<10 µg/l	TM208		<10	<10
VOC TIC	-	TM208		No TICs identified	No TICs identified
Sum of detected Xylenes	µg/l	TM208		none detected	none detected

CERTIFICATE OF ANALYSIS

SDG:	110602-86	**Location:**	North Bierley	**Order Number:**	SH3068
Job:	H_WARDELL_SHF-38	**Customer:**	Wardell Armstrong LLP	**Report Number:**	133631
Client Reference:	SH10534	**Attention:**	Joanne Shaw	**Superseded Report:**	

Notification of Non-Conforming Work

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
3589975	BH6		LIQUID	GRO by GC-FID (W)	Aliphatics >C10-C12	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	Aliphatics >C5-C6	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	Aliphatics >C6-C8	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	Aliphatics >C8-C10	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	Aromatics >EC10-EC12	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	Aromatics >EC5-EC7	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	Aromatics >EC7-EC8	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	Aromatics >EC8-EC10	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	Benzene	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	EPH (C6-C10)	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	EPH (C6-C10) mg/l	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	Ethylbenzene	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	GRO >C10-C12	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	GRO >C5-C10	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	GRO >C5-C12	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	GRO >C5-C6	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	GRO >C6-C7	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	GRO >C6-C8	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	GRO >C7-C8	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	GRO >C8-C10	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	GRO QC	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	GRO Surrogate % recovery**	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	m,p-Xylene	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	Methyl tertiary butyl ether (MTBE)	Volatile Analysis performed on vessel with headspace due testing requirement

CERTIFICATE OF ANALYSIS

SDG:	110602-86	**Location:**	North Bierley	**Order Number:**	SH3068
Job:	H_WARDELL_SHF-38	**Customer:**	Wardell Armstrong LLP	**Report Number:**	133631
Client Reference:	SH10534	**Attention:**	Joanne Shaw	**Superseded Report:**	

Sample Number	Customer Sample Ref.	Depth (m)	Matrix	Test Name	Component Name	Comment
3589975	BH6		LIQUID	GRO by GC-FID (W)	o-Xylene	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	QC raw	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	Sum of detected BTEX	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	Sum of detected Xylenes	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	tert-Amyl methyl ether (TAME)	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	Toluene	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	Total Aliphatics >C5-C12	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	Total Aromatics >EC5-EC12	Volatile Analysis performed on vessel with headspace due testing requirement
3589975	BH6		LIQUID	GRO by GC-FID (W)	Trace	Volatile Analysis performed on vessel with headspace due testing requirement

Note : Test results may be invalid

CERTIFICATE OF ANALYSIS

SDG:	110602-86	**Location:**	North Bierley	**Order Number:**	SH3068
Job:	H_WARDELL_SHF-38	**Customer:**	Wardell Armstrong LLP	**Report Number:**	133631
Client Reference:	SH10534	**Attention:**	Joanne Shaw	**Superseded Report:**	

Notification of NDPs (No determination possible)

Date Received : 02/06/2011 15:28:07

Sample No	Customer Sample Ref.	Depth (m)	Test	Comment
3589939	WS102		TPH CWG (W)	Insufficient Sample
3589939	WS102		EPH CWG (Aliphatic) Aqueous GC (W)	Insufficient Sample
3589939	WS102		EPH CWG (Aromatic) Aqueous GC (W)	Insufficient Sample

CERTIFICATE OF ANALYSIS

SDG:	110602-86	**Location:**	North Bierley	**Order Number:**	SH3068
Job:	H_WARDELL_SHF-38	**Customer:**	Wardell Armstrong LLP	**Report Number:**	133631
Client Reference:	SH10534	**Attention:**	Joanne Shaw	**Superseded Report:**	

Table of Results - Appendix

REPORT KEY

Results expressed as (e.g.) 1.03E-07 is equivalent to 1.03x10-7

NDP	No Determination Possible	#	ISO 17025 Accredited	*	Subcontracted Test	M	MCERTS Accredited
NFD	No Fibres Detected	PFD	Possible Fibres Detected	»	Result previously reported (Incremental reports only)	EC	Equivalent Carbon (Aromatics C8-C35)

Note: Method detection limits are not always achievable due to various circumstances beyond our control

Method No	Reference	Description	Wet/Dry Sample ¹	Surrogate Corrected
TM061	Method for the Determination of EPH,Massachusetts Dept.of EP, 1998	Determination of Extractable Petroleum Hydrocarbons by GC-FID (C10-C40)		
TM101	Method 4500B & C, AWWA/APHA, 20th Ed., 1999	Determination of Sulphide in soil and water samples using the Kone Analyser		
TM152	Method 3125B, AWWA/APHA, 20th Ed., 1999	Analysis of Aqueous Samples by ICP-MS		
TM174	Analysis of Petroleum Hydrocarbons in Environmental Media – Total Petroleum Hydrocarbon Criteria	Determination of Speciated Extractable Petroleum Hydrocarbons in Waters by GC-FID		
TM176	EPA 8270D Semi-Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry (GC/MS)	Determination of SVOCs in Water by GCMS		
TM178	Modified: US EPA Method 8100	Determination of Polynuclear Aromatic Hydrocarbons (PAH) by GC-MS in Waters		
TM183	BS EN 23506:2002, (BS 6068-2.74:2002) ISBN 0 580 38924 3	Determination of Trace Level Mercury in Waters and Leachates by PSA Cold Vapour Atomic Fluorescence Spectrometry		
TM184	EPA Methods 325.1 & 325.2,	The Determination of Anions in Aqueous Matrices using the Kone Spectrophotometric Analysers		
TM208	Modified: US EPA Method 8260b & 624	Determination of Volatile Organic Compounds by Headspace / GC-MS in Waters		
TM227	Standard methods for the examination of waters and wastewaters 20th Edition, AWWA/APHA Method 4500.	Determination of Total Cyanide, Free (Easily Liberatable) Cyanide and Thiocyanate		
TM228	US EPA Method 6010B	Determination of Major Cations in Water by iCap 6500 Duo ICP-OES		
TM241	Methods for the Examination of Waters and Associated Materials; Chromium in Raw and Potable Waters and Sewage Effluents 1980.	The Determination of Hexavalent Chromium in Waters and Leachates using the Kone Analyser		
TM245	By GC-FID	Determination of GRO by Headspace in waters		
TM256	The measurement of Electrical Conductivity and the Laboratory determination of pH Value of Natural, Treated and Wastewaters. HMSO, 1978. ISBN 011 751428 4.	Determination of pH in Water and Leachate using the GLpH pH Meter		
TM259	by HPLC	Determination of Phenols in Waters and Leachates by HPLC		
TM294				

¹ Applies to Solid samples only. DRY indicates samples have been dried at 35°C. NA = not applicable.

CERTIFICATE OF ANALYSIS

SDG:	110602-86	**Location:**	North Bierley	**Order Number:**	SH3068
Job:	H_WARDELL_SHF-38	**Customer:**	Wardell Armstrong LLP	**Report Number:**	133631
Client Reference:	SH10534	**Attention:**	Joanne Shaw	**Superseded Report:**	

Test Completion Dates

Lab Sample No(s)	3589940	3589941	3589939
Customer Sample Ref.	BH5	BH6	WS102
AGS Ref.			
Depth			
Type	LIQUID	LIQUID	LIQUID
Anions by Kone (w)	09-Jun-2011	09-Jun-2011	
Cyanide Comp/Free/Total/Thiocyanate	07-Jun-2011	07-Jun-2011	
Dissolved Metals by ICP-MS	08-Jun-2011	08-Jun-2011	
EPH CWG (Aliphatic) Aqueous GC (W)	09-Jun-2011	09-Jun-2011	
EPH CWG (Aromatic) Aqueous GC (W)	09-Jun-2011	09-Jun-2011	
Free Sulphur	08-Jun-2011	09-Jun-2011	
GRO by GC-FID (W)	10-Jun-2011	10-Jun-2011	10-Jun-2011
Hexavalent Chromium (w)	07-Jun-2011	07-Jun-2011	
Mercury Dissolved	07-Jun-2011	08-Jun-2011	
Metals by iCap-OES Dissolved (W)	07-Jun-2011	07-Jun-2011	
PAH Spec MS - Aqueous (W)	09-Jun-2011	09-Jun-2011	
pH Value	08-Jun-2011	08-Jun-2011	
Phenols by HPLC (W)	08-Jun-2011	09-Jun-2011	
Sulphide	07-Jun-2011	08-Jun-2011	
SVOC MS (W) - Aqueous	10-Jun-2011	10-Jun-2011	10-Jun-2011
TPH CWG (W)	10-Jun-2011	10-Jun-2011	
VOC MS (W)	09-Jun-2011	09-Jun-2011	

ALcontrol Laboratories

SVOC Tentatively Identified Compounds

Job Number - 110602-86
Customer - H_WARDELL_SHF
Sample Identity - 3612430 / BH5[]
Sample Type [Units] - Water - µg/l
Date Acquired - 10/06/11
Date Reported - 10/06/11
Analyst - YL

Tentative Compound Identification		Retention Time min	Concentration µg/l
Unknown hydrocarbons	-	13.3 - 17.19	6808
	-		
	-		
	-		
	-		
	-		
	-		
	-		
	-		
	-		

MAY INCLUDE PREVIOUSLY QUANTIFIED RESULTS
Please Note: the identification and semi-quantification of these tentatively identified compounds is outside the scope of the UKAS accreditation for this method

SDG:	110602-86	**Location:**	North Bierley	**Order Number:**	SH3068
Job:	H_WARDELL_SHF-38	**Customer:**	Wardell Armstrong LLP	**Report Number:**	133631
Client Reference:	SH10534	**Attention:**	Joanne Shaw	**Superseded Report:**	

Appendix

1. Results are expressed on a dry weight basis (dried at 35ºC) for all soil analyses except for the following: NRA Leach tests, flash point, ammonium as NH4 by the BRE method, VOC TICS, SVOC TICS, TOF-MS SCAN/SEARCH and TOF-MS TICS.

2. Samples will be run in duplicate upon request, but an additional charge may be incurred.

3. If sufficient sample is received a sub sample will be retained free of charge for 30 days after analysis is completed (e-mailed) for both soil jars, tubs and volatile jars. All waters and vials will be discarded 10 days after the analysis is completed (e-mailed). All material removed during an asbestos containing material screen and analysed for the presence of asbestos will be retained for a period of 6 months after the analysis date. All samples received and not scheduled will be disposed of one month after the date of receipt unless we are instructed to the contrary. Once the initial period has expired, a storage charge will be applied for each month or part thereof until the client cancels the request for sample storage. ALcontrol Laboratories reserve the right to charge for samples received and stored but not analysed.

4. With respect to turnaround, we will always endeavour to meet client requirements wherever possible, but turnaround times cannot be absolutely guaranteed due to so many variables beyond our control.

5. We take responsibility for any test performed by sub-contractors (marked with an asterisk). We endeavour to use UKAS/MCERTS Accredited Laboratories, who either complete a quality questionnaire or are audited by ourselves. For some determinands there are no UKAS/MCERTS Accredited Laboratories, in this instance a laboratory with a known track record will be utilised.

6. When requested, the individual sub sample scheduled will be screened in house for the presence of large asbestos containing material fragments/pieces. If no asbestos containing material is found this will be reported as 'no asbestos containing material detected'. If asbestos containing material is detected it will be removed and analysed by our documented in house method TM048 based on HSG 248 (2005), which is accredited to ISO17025. If asbestos containing material is present no further analysis will be undertaken. At no point is the fibre content of the soil sample determined.

7. If no separate volatile sample is supplied by the client, the integrity of the data may be compromised if the laboratory is required to create a sub-sample from the bulk sample -similarly, if a headspace or sediment is present in the volatile sample. This will be flagged up as an invalid VOC on the test schedule or recorded on the log sheet.

8. If appropriate preserved bottles are not received preservation will take place on receipt. However, the integrity of the data may be compromised.

9. NDP -No determination possible due to insufficient/unsuitable sample.

10. Metals in water are performed on a filtered sample, and therefore represent dissolved metals -total metals must be requested separately.

11. Results relate only to the items tested.

12. LODs for wet tests reported on a dry weight basis are not corrected for moisture content.

13. **Surrogate recoveries** -Most of our organic methods include surrogates, the recovery of which is monitored and reported. For EPH, MO, PAH, GRO and VOCs on soils the result is not surrogate corrected, but a percentage recovery is quoted. Acceptable limits for most organic methods are 70 -130 %.

14. **Product analyses** -Organic analyses on products can only be semi-quantitative due to the matrix effects and high dilution factors
employed.

15. Phenols monohydric by HPLC include phenol, cresols (2-Methylphenol, 3-Methylphenol and 4-Methylphenol) and Xylenols (2,3 Dimethylphenol, 2,4 Dimethylphenol, 2,5 Dimethylphenol, 2,6 Dimethylphenol, 3,4 Dimethyphenol, 3,5 Dimethylphenol).

16. Total of 5 speciated phenols by HPLC includes Phenol, 2,3,5-Trimethyl Phenol, 2-Isopropylphenol, Cresols and Xylenols (as detailed in 15).

17. Stones/debris are not routinely removed. We always endeavour to take a representative sub sample from the received sample.

18. In certain circumstances the method detection limit may be elevated due to the sample being outside the calibration range. Other factors that may contribute to this include possible interferences. In both cases the sample would be diluted which would cause the method detection limit to be raised.

19. Mercury results quoted on soils will not include volatile mercury as the analysis is performed on a dried and crushed sample.

20. For the BSEN 12457-3 two batch process to allow the cumulative release to be calculated, the volume of the leachate produced is measured and filtered for all tests. We therefore cannot carry out any unfiltered analysis. The tests affected include volatiles GCFID/GCMS and all subcontracted analysis.

21. For all leachate preparations (NRA, DIN, TCLP, BSEN 12457-1, 2, 3) volatile loss may occur, as we do not employ zero headspace extraction.

22. We are accredited to MCERTS for sand, clay and loam/topsoil, or any of these materials -whether these are derived from naturally occurring soil profiles, or from fill/made ground, as long as these materials constitute themajor part of the sample. Other coarse granular material such as concrete, gravel and brick are not accredited if they comprise the major part of the sample.

23. Analysis and identification of specific compounds using GCFID is by retention time only, and we routinely calibrate and quantify for benzene, toluene, ethylbenzenes and xylenes (BTEX). For total volatiles in the C4 -C10 range, the total area of the chromatogram is integrated and expressed as ug/kg or ug/l. Although this analysis is commonly used for the quantification of gasoline range organics (GRO), the system will also detect other compounds such as chlorinated solvents, and this may lead to a falsely high result with respect to hydrocarbons only. It is not possible to specifically identify these non-hydrocarbons, as standards are not routinely run for any other compounds, and for more definitive identification, volatiles by GCMS should be utilised.

SOLID MATRICES EXTRACTION SUMMARY

ANALYSIS	DIC OR WET	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
SOLVENT EXTRACTABLE MATTER	D&C	DCM	SOXTHERM	GRAVIMETRIC
CYCLOHEXANE EXT. MATTER	D&C	CYCLOHEXANE	SOXTHERM	GRAVIMETRIC
THIN LAYER CHROMATOGRAPHY	D&C	DCM	SOXTHERM	IATROSCAN
ELEMENTAL SULPHUR	D&C	DCM	SOXTHERM	HPLC
PHENOLS BY GCMS	WET	DCM	SOXTHERM	GCMS
HERBICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
PESTICIDES	D&C	HEXANE/ACETONE	SOXTHERM	GCMS
EPH (DRO)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (MINOIL)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH (CLEANED UP)	D&C	HEXANE/ACETONE	END OVER END	GC-FID
EPH CWG BY GC	D&C	HEXANE/ACETONE	END OVER END	GC-FID
PCB TOT / PCB CON	D&C	HEXANE/ACETONE	END OVER END	GCMS
POLYAROMATIC HYDROCARBONS (MS)	WET	HEXANE/ACETONE	MICROWAVE TM218.	GCMS
C8-C40 (C8-C40) EZ FLASH	WET	HEXANE/ACETONE	SHAKER	GC-EZ
POLYAROMATIC HYDROCARBONS RAPID GC	WET	HEXANE/ACETONE	SHAKER	GC-EZ
SEMI VOLATILE ORGANIC COMPOUNDS	WET	DCM/ACETONE	SONICATE	GCMS

LIQUID MATRICES EXTRACTION SUMMARY

ANALYSIS	EXTRACTION SOLVENT	EXTRACTION METHOD	ANALYSIS
PAH-MS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
EPH	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
EPH CWG	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
MINERAL OIL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GC FID
PCB 7 CONGENERS	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
PCB TOTAL	HEXANE	STIRRED EXTRACTION (STIR-BAR)	GCMS
SVOC	DCM	LIQUID/LIQUID SHAKE	GCMS
FREE SULPHUR	DCM	SOLID PHASE EXTRACTION	HPLC
PEST OCP/OPP	DCM	LIQUID/LIQUID SHAKE	GCMS
TRIAZINE HERBS	DCM	LIQUID/LIQUID SHAKE	GCMS
PHENOLS/MS	DCM	SOLID PHASE EXTRACTION	GCMS
TPH by INFRARED (IR)	TCE	LIQUID/LIQUID SHAKE	HPLC
MINERAL OIL by IR	TCE	LIQUID/LIQUID SHAKE	HPLC
GLYCOLS	NONE	DIRECT INJECTION	GCMS

Identification of Asbestos in Bulk Materials & Soils

The results for identification of asbestos in bulk materials are obtained from supplied bulk materials or those identified as potentially asbestos containing during sample description which have been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

The results for identification of asbestos in soils are obtained from a homogenised sub sample which has been examined to determine the presence of asbestos fibres using Alcontrol Laboratories (Hawarden) in-house method of transmitted/polarised light microscopy and central stop dispersion staining, based on HSG 248 (2005).

Asbestos Type	Common Name
Chrysotile	White Asbestos
Amosite	Brown Asbestos
Crocidolite	Blue Asbestos
Fibrous Actinolite	-
Fibrous Anthophyllite	-
Fibrous Tremolite	-

Visual Estimation Of Fibre Content

Estimation of fibre content is not permitted as part of our UKAS accredited test other than: -
Trace -Where only one or two asbestos fibres were identified.

Further guidance on typical asbestos fibre content of manufactured products can be found in HSG 264.

The identification of asbestos containing materials and soils falls within our schedule of tests for which we hold UKAS accreditation, however opinions, interpretations and all other information contained in the report are outside the scope of UKAS accreditation.

APPENDIX VII

Statistical Analysis of Geochemical Laboratory Results

STATISTICAL ANALYSIS OF SOIL CONTAMINATION DATA - PLANNING SCENARIO

(Based on CL:AIRE/CIEH Guidance on Comparing Soil Contamination Data with a Critical Concentration, May 2008)

Job Number: **SH11534** Job Name: **North Bierley**

Assessor: **J Lymer** Date: **15/05/2015**

Proposed Land Use: **Commercial / Industrial** Zone: **All Data**

Key Question: Is there significant evidence that the true mean concentration of the contaminant is less than the screening value (critical concentration)?

Null Hypothesis (H0): The true mean concentration is equal to or greater than the screening value (critical concentration; μ ≥ Cc)

Alternative Hypothesis (H1): The true mean concentration is less than the screening value (critical concentration; μ < Cc)

SAMPLE IDENTIFICATION / STATISTICAL TEST		RECORDED CONCENTRATION / STATISICAL RESULT															
Location	Depth (mbgl)	Arsenic (As) mg/kg	Cadmium (Cd) mg/kg	Chromium (Cr) mg/kg	Copper (Cu) mg/kg	Lead (Pb) mg/kg	Mercury (Hg) mg/kg	Nickel (Ni) mg/kg	Selenium (Se) mg/kg	Boron (B) mg/kg	Zinc (Zn) mg/kg	Cyanide (total) mg/kg	Phenol (total-mono) mg/kg	Sulphate (total) %	Sulphate (2:1) g/l	Sulphide (S^{2-}) mg/kg	Chromium VI mg/kg
WS 109	0.70	15.8	0.5	25.9	23.6	23.8	0.1	33.6	1.1	1.0	90.1	1.0	0.10	0.014	0.035	15.00	0.60
TP 101	0.60	18.2	1.6	19.7	84.6	1680.0	0.1	20.8	1.0		1230.0		0.10	0.025	0.008		0.60
TP 102	0.80	25.6	0.5	25.6	115.0	1150.0	0.6	39.2	1.0	1.0	122.0	3.8	0.10	0.010		15.00	0.60
TP 103	0.40	41.2	0.0	810.0	85.1	73.1	0.1	50.6	2.7		154.0		0.10	0.134	0.088		1.20
TP 104	0.50	12.8	0.5	23.1	45.1	26.1	0.1	49.3	1.0		113.0		0.10	0.022	0.039		0.60
TP 105	0.30	20.7	0.5	166.0	85.6	95.8	0.1	34.7	1.1		208.0		0.10	0.141	0.058		0.60
TP 105	0.90	6.1	0.4	28.0	22.8	21.5	0.1	31.9	1.0	1.0	76.0	1.0	0.10	0.017		15.00	0.60
TP 106	0.50	8.6	0.5	24.1	32.1	21.2	0.1	34.3	1.0		92.0		0.10	0.075	0.029		0.60
TP 107	0.70	10.0	0.0	24.6	24.0	21.7	0.1	36.1	1.0		92.2		0.10	0.077	0.167		0.60
TP 108	0.75	7.9	1.1	24.3	24.8	21.7	0.1	10.6	10.0		51.1		0.10	0.016	0.023		0.60
TP 109	0.60	101.0	1.2	98.8	127.0	160.0	0.1	29.6	10.0	1.0	219.0	1.5	0.10	0.051	0.016	15.00	1.20
TP 110	1.00	28.1	1.3	25.4	85.4	70.1	0.1	44.5	2.1		313.0		0.10	0.026	0.041		0.60
TP 111	0.70	45.9	0.0	19.7	37.9	22.2	0.1	30.3	1.0		62.9		0.10	0.456	0.204		1.20
TP 111	1.20	52.3	0.2	30.4	51.0	43.5	0.1	36.7	10.0		79.8		0.10	0.084	0.200		0.60
TP 112	0.50	9.6	0.3	23.4	24.0	16.5	0.1	26.6	1.0	1.0	74.4	1.0	0.10	0.008		15.00	0.60
TP 113	0.45	9.8	0.4	23.3	16.7	17.8	0.1	18.8	1.0		59.8		0.10	0.015	0.016		0.60
TP 114	0.80	19.4	1.8	40.0	40.1	34.4	0.1	33.3	10.0	1.0	130.0	1.0	0.10	0.007	0.008	15.00	0.60
TP 115	0.30	56.8	0.0	63.7	64.3	52.6	0.1	33.1	1.0		115.0		0.10	0.204	0.123		0.60
TP 117	0.40	5.8	0.3	26.6	46.3	16.9	0.1	52.4	1.0	1.0	105.0	1.0	0.10	0.014		15.00	0.60
TP 118	0.70	15.7	0.2	25.3	31.9	40.1	0.1	34.5	10.0		113.0		0.10	0.027	0.027		0.60
TP 119	0.30	8.3	0.4	24.0	26.1	17.3	0.1	38.1	1.0	1.0	81.4	1.0	0.10	0.031		15.00	0.60
WS 101	0.40	40.3	0.6	68.5	78.5	105.0	0.1	28.0	5.0	1.0	126.0	1.0	0.10	0.014	0.008	15.00	0.60
WS 102	0.70	625.0	1.8	477.0	447.0	485.0	0.9	36.8	1.8	1.0	396.0	8.7	0.10	0.144		15.00	1.37
WS 103	0.30	10.8	0.0	35.5	49.6	92.5	0.1	29.2	10.0		91.7		0.10	0.022	0.021		0.60
WS 104	0.40	9.3	0.3	29.7	21.6	19.7	0.1	34.8	1.0	1.0	79.1	1.1	0.10	0.005	0.015	15.00	0.60
WS 105	0.30	5.6	0.0	26.6	24.5	30.5	0.1	35.8	1.0		87.5		0.10	0.040	0.102		0.60
WS 106	0.50	28.0	0.7	176.0	158.0	137.0	0.1	38.0	1.0	1.0	209.0	**23.8**	0.10	0.078		15.00	1.20
WS 107	0.50	25.1	0.5	32.4	41.7	112.0	0.1	28.4	1.0		96.2		0.10	0.060	0.013		0.60
WS 108	0.40	160.0	0.0	168.0	259.0	508.0	0.9	22.4	10.0		329.0		0.10	0.136	0.140		3.00
WS 110	0.60	17.2	0.0	20.3	30.6	31.1	0.1	35.7	1.0		88.2		0.10	0.025	0.008		0.60
	Number of samples (N)	29	29	29	29	29	29	29	29	11	29	11	29	29	22	11	29
	Minimum	5.56	0.02	19.7	16.7	16.5	0.14	10.6	1	1	51.1	1	0.1	0.00499	0.008	15	0.6
	Maximum	625	1.82	810.0	447	1680	0.936	52.4	10	1	1230	23.8	0.1	0.456	0.204	15	3
	Standard Deviation	115	1	166	88	370	0	9	4	0	221	7	0	0	0	0	0
	Screening Value (Critical Conc.; Cc)	640	190	8600	68000	2330	1100	980	12000	9000	730000	20	760	n/a	n/a	n/a	33
	Source of Screening Value																
Outlier identification																	
	Standardised Value (Tn)	3.140	1.275	2.961	2.716	2.588	3.163	1.526	1.620	#DIV/0!	3.375	2.302	-0.983	2.266	1.576	#DIV/0!	3.666
	Critical Value (Tcrit)	2.730	2.730	2.730	2.730	2.730	2.730	2.730	2.730	2.234	2.730	2.234	2.730	2.730	2.603	2.234	2.730
	Is there an Outlier (Tn > Tcrit)	**YES**	NO	**YES**	NO	NO	**YES**	NO	NO	#DIV/0!	**YES**	**YES**	NO	NO	NO	#DIV/0!	**YES**
	Outlier location(s) and depth(s)																
	Outlier status																
Does the Data have a Normal Distribution?																	
	Visual Estimate (probability plot)	NO	NO	NO	NO	NO	NO	YES	NO	n/a stdev=0	NO	#REF!	NO	NO	NO	n/a stdev=0	NO
	Shapiro-Wilk statistic (W)	0.37	0.82	0.46	0.61	0.48	0.37	0.96	0.61	n/a stdev=0	0.48	#REF!	0.00	0.65	0.56	n/a stdev=0	0.45
	Shapiro-Wilk Test (is W > Sig(0.05))	NO	NO	NO	NO	NO	NO	YES	NO	n/a stdev=0	NO	#REF!	NO	NO	NO	n/a stdev=0	NO
	Mean Concentration (95% UCL)	n/a	n/a	n/a	n/a	n/a	n/a	36	n/a	1	n/a	#REF!	n/a	n/a	n/a	15	n/a
	Is there significant evidence that the mean concentration is less than the screening value (μ < Cc)?	n/a	n/a	n/a	n/a	n/a	n/a	YES	n/a	YES	n/a	#REF!	n/a	n/a	n/a	YES	n/a
	Level of Evidence (p_1, %)	n/a	n/a	n/a	n/a	n/a	n/a	100	n/a	#DIV/0!	n/a	#REF!	n/a	n/a	n/a	n/a	n/a
Does the Data have a Non-normal Distribution?																	
	Chebychev Theorem.	YES	YES	YES	YES	YES	YES	NO	YES	NO	YES	#REF!	YES	YES	YES	NO	YES
	Mean Concentration (95% UCL)	143	1	224	147	477	0	n/a	7	n/a	351	#REF!	0	0	0	n/a	1
	Is there significant evidence that the mean concentration is less than the screening value (μ < Cc)?	YES	YES	YES	YES	YES	YES	n/a	YES	n/a	YES	#REF!	YES	n/a	n/a	n/a	YES
	Level of Evidence (p1, %)	99	99	99	99	99	99	n/a	99	n/a	99	#REF!	99	n/a	n/a	n/a	99

NB: 1) values shown in bold exceed the critical concentration (adopted generic screening value); 2) Non-detects have been entered as the limit of dectection for that substance and these values are shown in italics.

STATISTICAL ANALYSIS OF SOIL CONTAMINATION DATA - PLANNING SCENARIO

(Based on CL:AIRE/CIEH Guidance on Comparing Soil Contamination Data with a Critical Concentration, May 2008)

Job Number: **SH11534** Job Name: **North Bierley**

Assessor: **J Lymer** Date: **15/05/2015**

Proposed Land Use: **Commercial / Industrial** Zone: **All Data**

Key Question: Is there significant evidence that the true mean concentration of the contaminant is less than the screening value (critical concentration)?

Null Hypothesis (H0): The true mean concentration is equal to or greater than the screening value (critical concentration; μ ≥ Cc)

Alternative Hypothesis (H1): The true mean concentration is less than the screening value (critical concentration; μ < Cc)

SAMPLE IDENTIFICATION / STATISTICAL TEST		RECORDED CONCENTRATION / STATISICAL RESULT															
Location	Depth (mbgl)	Acenaphthene ug/kg	Acenaphthylene ug/kg	Anthracene ug/kg	Benzo(a) anthracene ug/kg	Benzo(a)pyrene ug/kg	Benzo(b) fluoranthene ug/kg	Benzo(ghi) perylene ug/kg	Benzo(k) fluoranthene ug/kg	Chrysene ug/kg	Dibenzo(ah) anthracene ug/kg	Fluoranthene ug/kg	Fluorene ug/kg	Indeno(123cd) pyrene ug/kg	Naphthalene ug/kg	Phenanthrene ug/kg	Pyrene ug/kg
TP 101	0.60	597	100.0	1030	1980	1720	1100	746	1480	2020	178	4520	483.00	690	795	4550	3880
TP 102	0.80	8	12.0	16	70	50	78	41	28	58	23	81	10.00	32	55	92	73
TP 103	0.40	442	200.0	1220	4630	5710	4670	3210	4140	4600	739	8750	377.00	3020	381	4350	7940
TP 104	0.50	100	100.0	100	100	100	124	100	100	198	100	176	100.00	100	387	622	181
TP 105	0.30	100	100.0	100	236	305	272	199	287	344	100	445	100.00	164	162	382	425
TP 105	0.90	8	12.0	24	24	15	40	24	14	23	23	17	10.00	18	12	24	19
TP 106	0.50	127	100.0	796	2350	2400	1860	1250	1830	2210	255	4790	116.00	1140	166	1950	4140
TP 107	0.70	100	100.0	100	100	100	100	100	100	100	100	100	100.00	100	100	100	100
TP 108	0.75	100	100.0	100	100	100	100	100	100	100	100	100	100.00	100	100	100	100
TP 109	0.60	186	81.9	442	1600	1560	2200	1100	810	1500	310	2860	153.00	992	166	1620	2400
TP 110	1.00	100	100.0	132	544	594	523	335	466	569	100	1040	100.00	291	100	618	950
TP 111	0.70	100	100.0	100	128	100	100	100	100	243	100	135	100.00	100	187	931	174
TP 111	1.20	100	100.0	226	628	568	502	290	456	636	100	1330	100.00	267	133	916	1130
TP 112	0.50	8	12.0	16	14	15	15	24	14	10	23	17	10.00	18	9	15	15
TP 113	0.45	100	100.0	100	100	100	100	100	100	100	100	100	100.00	100	100	100	100
TP 114	0.80	8	12.0	16	54	27	44	30	20	56	23	71	10.00	18	9	77	62
TP 115	0.30	100	100.0	100	191	204	236	179	150	296	100	312	100.00	133	309	801	317
TP 117	0.40	8	12.0	16	25	15	26	24	14	33	23	24	12.60	18	155	206	27
TP 118	0.70	100	100.0	100	215	229	205	142	181	247	100	386	100.00	119	100	286	361
TP 119	0.30	8	12.0	19	82	69	147	85	40	98	23	130	10.00	46	36	179	125
WS 101	0.40	55	28.3	174	1000	1050	1270	791	528	951	165	2040	36.40	642	49	620	1830
WS 102	0.70	4050	395.0	7930	16500	16300	16500	9650	7130	14000	2530	35800	3590.00	8940	6390	29600	28600
WS 103	0.30	100	100.0	146	372	375	307	242	288	392	100	765	100.00	204	159	637	663
WS 104	0.40	8	12.0	16	31	20	38	24	14	25	23	33	10.00	18	12	34	30
WS 105	0.30	100	100.0	100	100	100	100	100	100	100	100	100	100.00	100	100	147	100
WS 106	0.50	93	68.2	259	1550	1980	2260	1850	859	1460	400	2290	71.70	1470	567	1350	2060
WS 107	0.50	498	100.0	951	1770	1710	1300	751	1450	1950	163	4310	472.00	705	1110	4650	3780
WS 108	0.40	8450	1000.0	10400	20300	19400	13900	9900	14100	20500	2030	47100	5920.00	8860	7060	49000	40200
WS 109	0.70	8	12.0	16	54	30	62	41	14	68	23	65	10.00	18	86	196	60
WS 110	0.60	100	100.0	100	100	100	100	100	100	100	100	100	100.00	100	100	131	100
Number of samples (N)		30	30	30	30	30	30	30	30	30	30	30	30	30	30	30	30
Minimum		8	12	16	14	15	15	24	14	10	23	17	10	18	9	15	15
Maximum		8450	1000	10400.0	20300	19400	16500	9900	14100	20500	2530	47100	5920	8940	7060	49000	40200
Standard Deviation		1665	183	2312	4641	4525	3843	2467	2852	4407	567	10498	1224	2248	1675	10151	8763
Screening Value (Critical Conc., Cc)		141000	212000	540000000	170000	35000	44000	4000000	1200000	350000	3600	23000000	68000000	510000	183000	22000000	54000000
Source of Screening Value																	
Outlier identification																	
Standardised Value (Tn)		2.628	2.417	2.494	2.253	2.133	2.229	2.236	2.203	2.243	2.536	2.171	2.639	2.178	2.448	2.433	2.187
Critical Value (Tcrit)		2.745	2.745	2.745	2.745	2.745	2.745	2.745	2.745	2.745	2.745	2.745	2.745	2.745	2.745	2.745	2.745
Is there an Outlier (Tn > Tcrit)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Outlier location(s) and depth(s)																	
Outlier status																	
Does the Data have a Normal Distribution?																	
Visual Estimate (probability plot)		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Shapiro-Wilk statistic (W)		0.33	0.46	0.38	0.43	0.44	0.45	0.45	0.45	0.44	0.45	0.41	0.35	0.45	0.38	0.37	0.42
Shapiro-Wilk Test (is W > Sig(0.05))		NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO	NO
Mean Concentration (95% UCL)		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Is there significant evidence that the mean concentration is less than the screening value (μ < Cc)?		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Level of Evidence (p_1, %)		n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
Does the Data have a Non-normal Distribution?																	
Chebychev Theorem.		YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Mean Concentration (95% UCL)		1854	261	2669	5526	5437	4669	3018	3438	5274	727	12290	1394	2740	1970	11557	10307
Is there significant evidence that the mean concentration is less than the screening value (μ < Cc)?		YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES
Level of Evidence (p1, %)		99	99	99	99	99	99	99	99	99	99	99	99	99	99	99	99

NB: 1) values shown in bold exceed the critical concentration (adopted generic screening value); 2) Non-detects have been entered as the limit of dectection for that substance and these values are shown in italics.

APPENDIX VIII

Geotechnical Laboratory Results

PSL
Professional Soils Laboratory

LABORATORY REPORT

UKAS TESTING
4043

Contract Number: PSL11/1223

Client's Reference: Report Date: 09 June 2011

Client Name: Wardell Armstrong
Unit 4, Newton Business Centre
Thorncliffe Park
Chapeltown
Sheffield
S35 2PH

For the attention of: Mike Kelly

Contract Title: North Bierley WWTW

Date Received: 24-May-11
Date Commenced: 24-May-11
Date Completed: 09-June-11

Notes: **Observations and Interpretations are outside the UKAS Accreditation**

A copy of the Laboratory Schedule of accredited tests as issued by UKAS is attached to this report. This certificate is issued in accordance with the accreditation requirements of the United Kingdom Accreditation Service. The results reported herein relate only to the material supplied to the laboratory. This certificate shall not be reproduced in full, without the prior written approval of the laboratory.

Checked and Approved Signatories:

R Gunson	A Watkins	M Beastall
(Director)	(Director)	(Laboratory Manager)

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SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Depth m	Description of Sample
BH1	4	B	0.85-1.20	Brown gravelly very sandy CLAY.
BH1	8	U	2.00-2.45	Very stiff brown gravelly very sandy CLAY.
BH1	9	D	2.50	Brown gravelly very sandy CLAY.
BH1	12	U	3.50-3.95	Stiff brown slightly gravelly slightly sandy very silty CLAY.
BH1	13	D	4.00	Brown slightly sandy very silty CLAY.
BH1	19	D	6.10	Brown sandy slightly clayey GRAVEL.
BH2	2	B	0.50-1.00	Brown very gravelly very sandy CLAY.
BH2	5	B	2.00-2.60	Brown mottled grey gravelly slightly sandy CLAY.
BH2	8	D	3.40	Dark grey very gravelly CLAY.
BH2	17	B	6.60-7.10	Brown very sandy very clayey GRAVEL.
BH2	20	D	8.40	Brown sandy GRAVEL.
BH3	6	B	1.10-1.70	Brown slightly gravelly very sandy CLAY.
BH3	4	U	1.20-1.65	Stiff brown mottled grey gravelly sandy CLAY.
BH3	5	D	1.70	Brown very gravelly sandy CLAY.
BH3	8	U	2.30-2.70	Very stiff brown gravelly very sandy CLAY.
BH3	9	D	2.70	Brown gravelly very sandy CLAY.
BH3	14	B	4.70-5.20	Brown very clayey SAND & GRAVEL.
BH4	2	B	0.50-1.00	Grey very gravelly sandy very silty CLAY.
BH4	3,4	B	1.20-2.40	Brown slighlty gravelly sandy CLAY.

PSL
Professional Soils Laboratory

Compiled by	Date	Checked by	Date	Approved by	Date
	09/06/11		09/06/11		09/06/11

NORTH BIERLEY WWTW.

Contract No: PSL11/1223

Client Ref: SH10534

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Depth m	Description of Sample
BH4	5	D	2.40	Brown gravelly sandy CLAY.
BH4	6	U	2.50-2.95	Firm brown mottled grey slightly gravelly sandy silty CLAY.
BH4	7	D	3.00	Brown mottled grey very gravelly sandy silty CLAY.
BH4	9	U	4.50-4.95	Grey mottled brown gravelly sandy silty CLAY.
BH4	12	U	2.20-2.65	Brown mottled grey gravelly sandy CLAY.
BH4	13	D	7.00	Dark brown gravelly sandy CLAY.
BH4	17	D	7.80	Brown very gravelly sandy CLAY.
BH5	2,3,4	B	0.50-2.70	Grey very gravelly sandy CLAY.
BH5	5,7	B	3.20-4.50	Brown mottled grey very gravelly very sandy CLAY..
BH5	7	B	4.00-4.50	Brown mottled grey very gravelly very sandy CLAY..
BH5	10	U	5.70-6.15	Soft brown mottled grey slightly gravelly very sandy CLAY.
BH5	11	D	6.20	Brown mottled grey slightly gravelly very sandy CLAY.
BH5	12	B	5.80-6.50	Brown mottled grey slightly gravelly very sandy CLAY.
BH5	13	U	6.70-7.15	Firm brown mottled grey gravelly sandy CLAY.
BH5	14	D	7.20	Brown mottled grey gravelly sandy CLAY.
BH6	2,3,4	D	0.50-1.80	Brown gravelly sandy CLAY.
BH6	5	B	2.20-2.90	Brown mottled grey very gravelly sandy CLAY.
BH6	10	B	5.20-5.70	Brown mottled grey very gravelly very sandy CLAY.
BH6	10,11	B	5.20-6.70	Brown mottled grey very gravelly very sandy CLAY.

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Professional Soils Laboratory

Compiled by	Date	Checked by	Date	Approved by	Date
	09/06/11		09/06/11		09/06/11

NORTH BIERLEY WWTW.

Contract No: PSL11/1223

Client Ref: SH10534

SUMMARY OF LABORATORY SOIL DESCRIPTIONS

Hole Number	Sample Number	Sample Type	Depth m	Description of Sample
BH6	13	U	7.00-7.45	Firm grey slightly gravelly slightly sandy silty CLAY.
BH6	14	D	7.50	Grey gravelly silty CLAY.
BH6	17	U	8.50-8.95	Stiff brown gravelly sandy CLAY.
BH6	18	D	9.00	Brown gravelly sandy CLAY.
BH6	20	U	9.50-9.85	Firm brown very gravelly very sandy CLAY.
BH6	21	D	9.85	Brown very gravelly sandy CLAY.
BH7	3	U	1.20-1.65	Brown mottled grey very gravelly sandy CLAY.
BH7	4	D	1.70	Dark grey mottled brown very gravelly sandy silty CLAY.
BH7	6	U	2.20-2.65	Stiff brown mottled grey gravelly sandy CLAY.
BH7	15	U	5.50-5.85	Firm brown slightly gravelly sandy silty CLAY.
BH7	16	D	6.00	Brown gravelly sandy silty CLAY.
BH7	21	D	7.40	Brown gravelly sandy silty CLAY.
TP102		B	1.20	Brown mottled grey gravelly very sandy very silty CLAY.
TP108		B	0.90	Brown mottled grey gravelly very sandy very silty CLAY.
TP111		B	2.20	Brown slightly gravelly sandy CLAY.
TP114		B	1.10	Brown very gravelly very sandy silty CLAY.
TP118		B	1.40	Brown slightly gravelly slightly sandy CLAY.

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NORTH BIERLEY WWTW.

Contract No: PSL11/1223

Client Ref: SH10534

SUMMARY OF SOIL CLASSIFICATION TESTS

(B.S. 1377 : PART 2 : 1990)

Hole Number	Sample Number	Sample Type	Depth m	Moisture Content % Clause 3.2	Bulk Density Mg/m^3 Clause 7.2	Dry Density Mg/m^3 Clause 7.2	Particle Density Mg/m^3 Clause 8.	Liquid Limit % Clause 4.3/4.4	Plastic Limit % Clause 5.	Plasticity Index % Clause 6.	% Passing .425mm	Remarks
BH1	9	D	2.50	14				25	16	9	68	Low plasticity CL.
BH1	13	D	4.00	17				37	21	16	95	Intermediate plasticity CI.
BH1	19	D	6.10	7.4					NP			
BH2	2	B	0.50-1.00	11								
BH2	5	B	2.00-2.60	27								
BH2	8	D	3.40	14								
BH2	20	D	8.40	9.4								
BH3	5	D	1.70	14				32	19	13	68	Low plasticity CL.
BH3	9	D	2.70	14				30	17	13	81	Low plasticity CL.
BH4	2	B	0.50-1.00	36								
BH4	5	D	2.40	19				36	22	14	81	Intermediate plasticity CI.
BH4	7	D	3.00	14				40	23	17	68	Intermediate plasticity CI.
BH4	13	D	7.00	28				60	30	30	82	High plasticity CH.
BH4	17	D	7.80	17				45	26	19	61	Intermediate plasticity CI.
BH5	7	B	4.00-4.50	19				41	21	20	50	Intermediate plasticity CI.
BH5	11	D	6.20	32				46	23	23	90	Intermediate plasticity CI.
BH5	14	D	7.20	18				41	22	19	79	Intermediate plasticity CI.
BH6	14	D	7.50	16				36	19	17	77	Intermediate plasticity CI.
BH6	18	D	9.00	20				40	22	18	80	Intermediate plasticity CI.

SYMBOLS : NP : Non Plastic *** : Liquid Limit and Plastic Limit Wet Sieved.**

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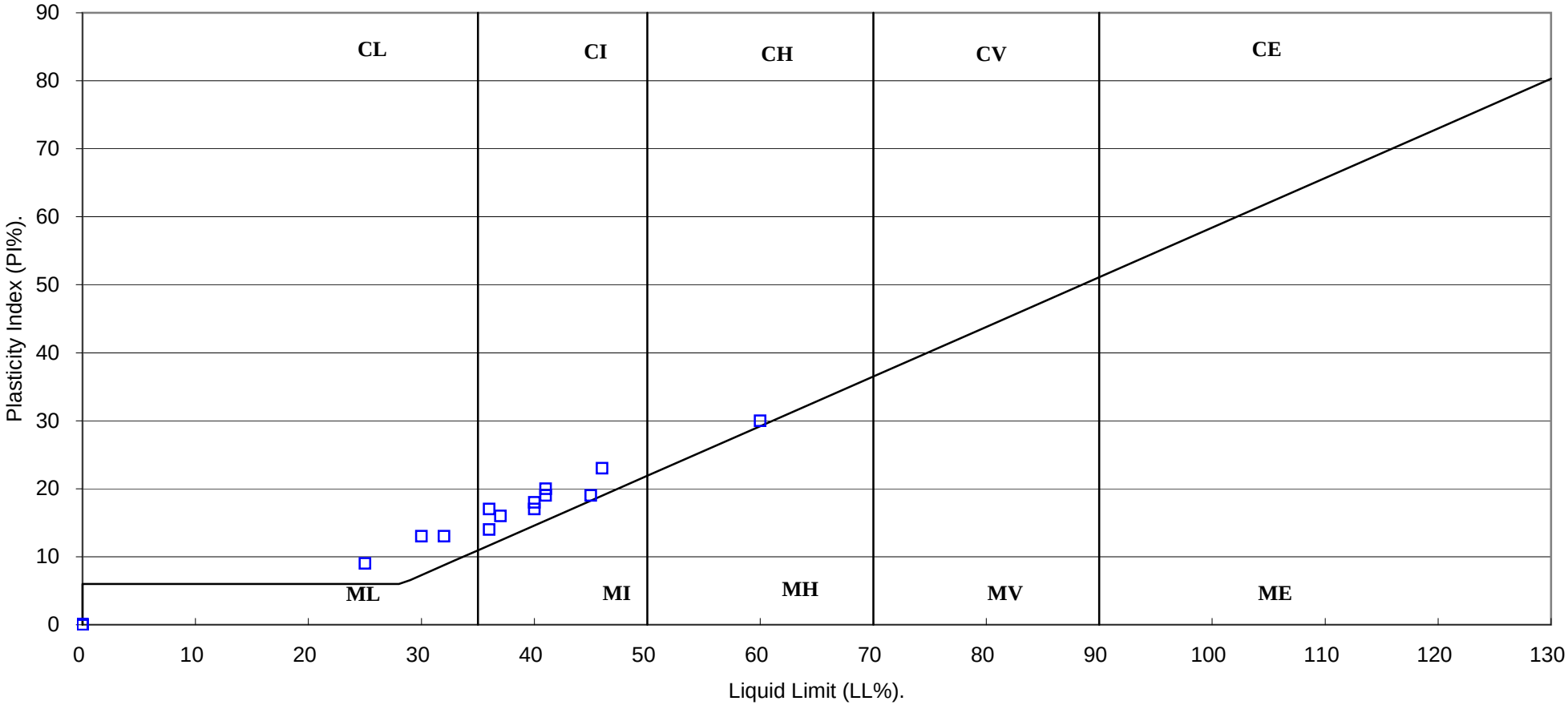
NORTH BIERLEY WWTW.

Contract No: PSL11/1223

Client Ref: SH10534

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

(B.S.5930 : 1999)



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		09/06/11		09/06/11		09/06/11
	NORTH BIERLEY WWTW.				Contract No:	PSL11/1223
					Client Ref:	SH10534

SUMMARY OF SOIL CLASSIFICATION TESTS

(B.S. 1377 : PART 2 : 1990)

Hole Number	Sample Number	Sample Type	Depth m	Moisture Content % Clause 3.2	Bulk Density Mg/m^3 Clause 7.2	Dry Density Mg/m^3 Clause 7.2	Particle Density Mg/m^3 Clause 8.	Liquid Limit % Clause 4.3/4.4	Plastic Limit % Clause 5.	Plasticity Index % Clause 6.	% Passing .425mm	Remarks
BH6	21	D	9.85	15				40	21	19	68	Intermediate plasticity CI.
BH7	4	D	1.70	22				42	25	17	70	Intermediate plasticity CI.
BH7	16	D	6.00	19				44	20	24	82	Intermediate plasticity CI.
BH7	21	D	7.40	12				41	22	19	84	Intermediate plasticity CI.
TP102		B	1.20	26				47	27	20	81	Intermediate plasticity CI.
TP108		B	0.90	28				51	26	25	87	Intermediate plasticity CI.
TP114		B	1.10	13				30	19	11	54	Low plasticity CL.

SYMBOLS : NP : Non Plastic *** : Liquid Limit and Plastic Limit Wet Sieved.**

PSL Professional Soils Laboratory

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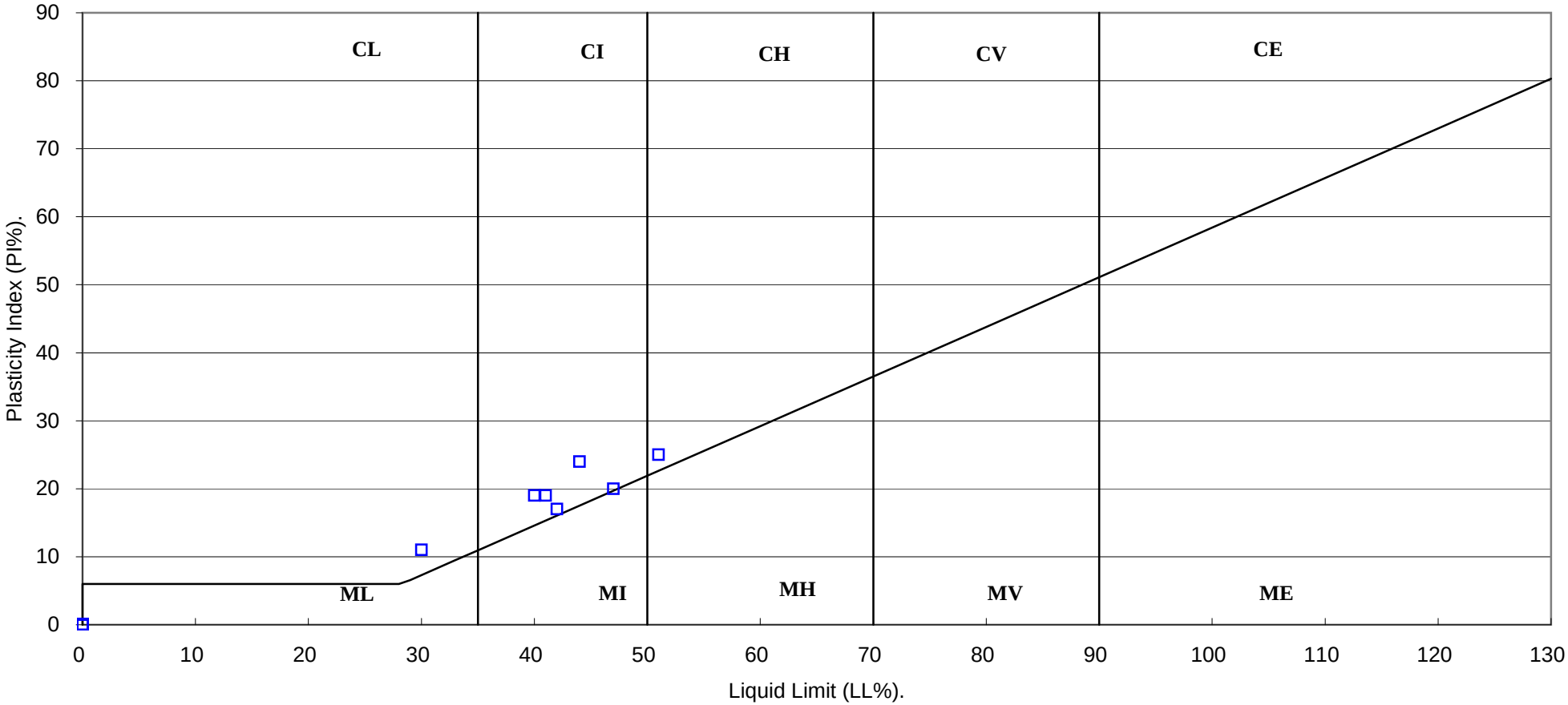
NORTH BIERLEY WWTW.

Contract No: PSL11/1223

Client Ref: SH10534

PLASTICITY CHART FOR CASAGRANDE CLASSIFICATION.

(B.S.5930 : 1999)



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	NORTH BIERLEY WWTW.				Contract No:	PSL11/1223
					Client Ref:	SH10534

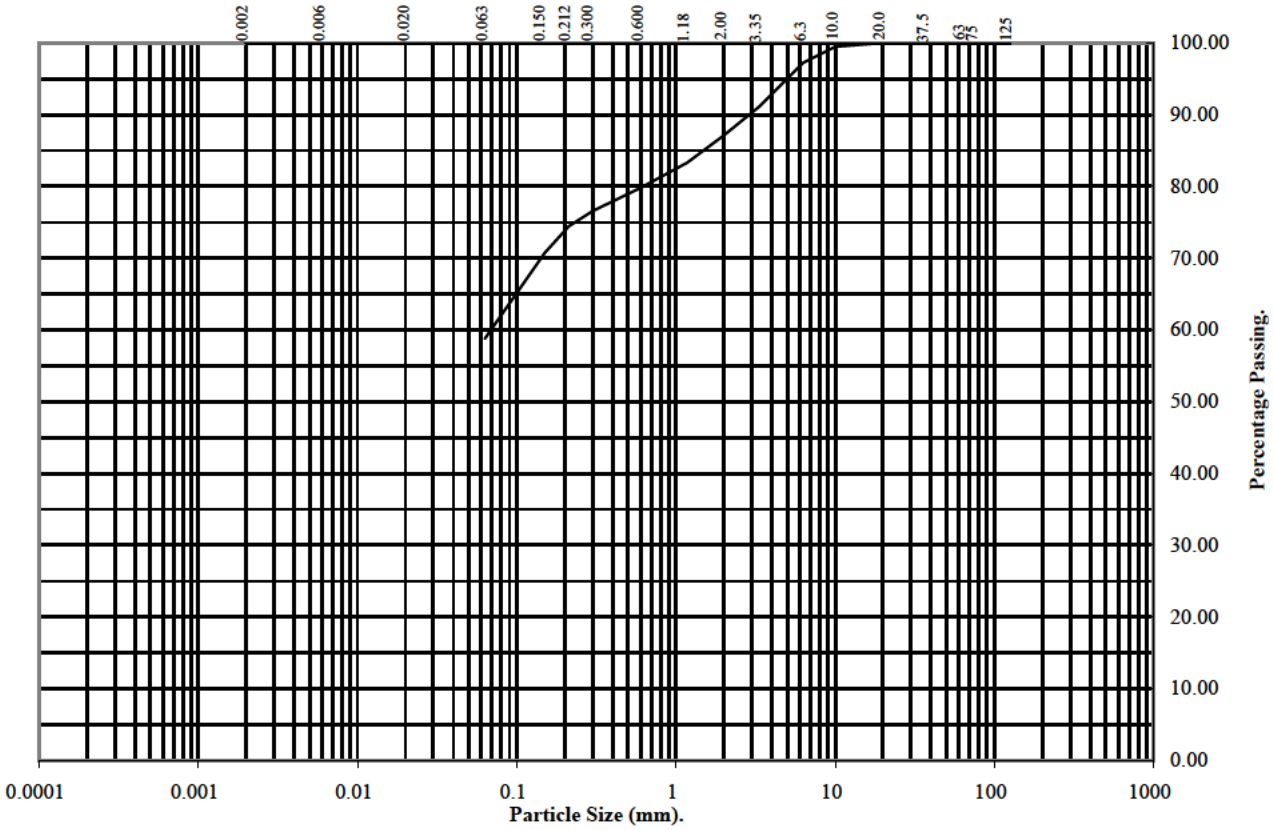
Particle Size Distribution Test

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: BH1 **Depth (m):** 0.85-1.20

Sample Number: 4 **Sample Type:** B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	99
6.3	97
3.35	91
2	87
1.18	83
0.6	80
0.3	77
0.212	74
0.15	71
0.063	59

Soil Fraction	Total Percentage
Cobbles	0
Gravel	13
Sand	28
Silt / Clay	59

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
RC	09/06/11	RC	09/06/11

PSL Professional Soils Laboratory	NORTH BIERLEY WWTW.	Contract No.: PSL11/1223

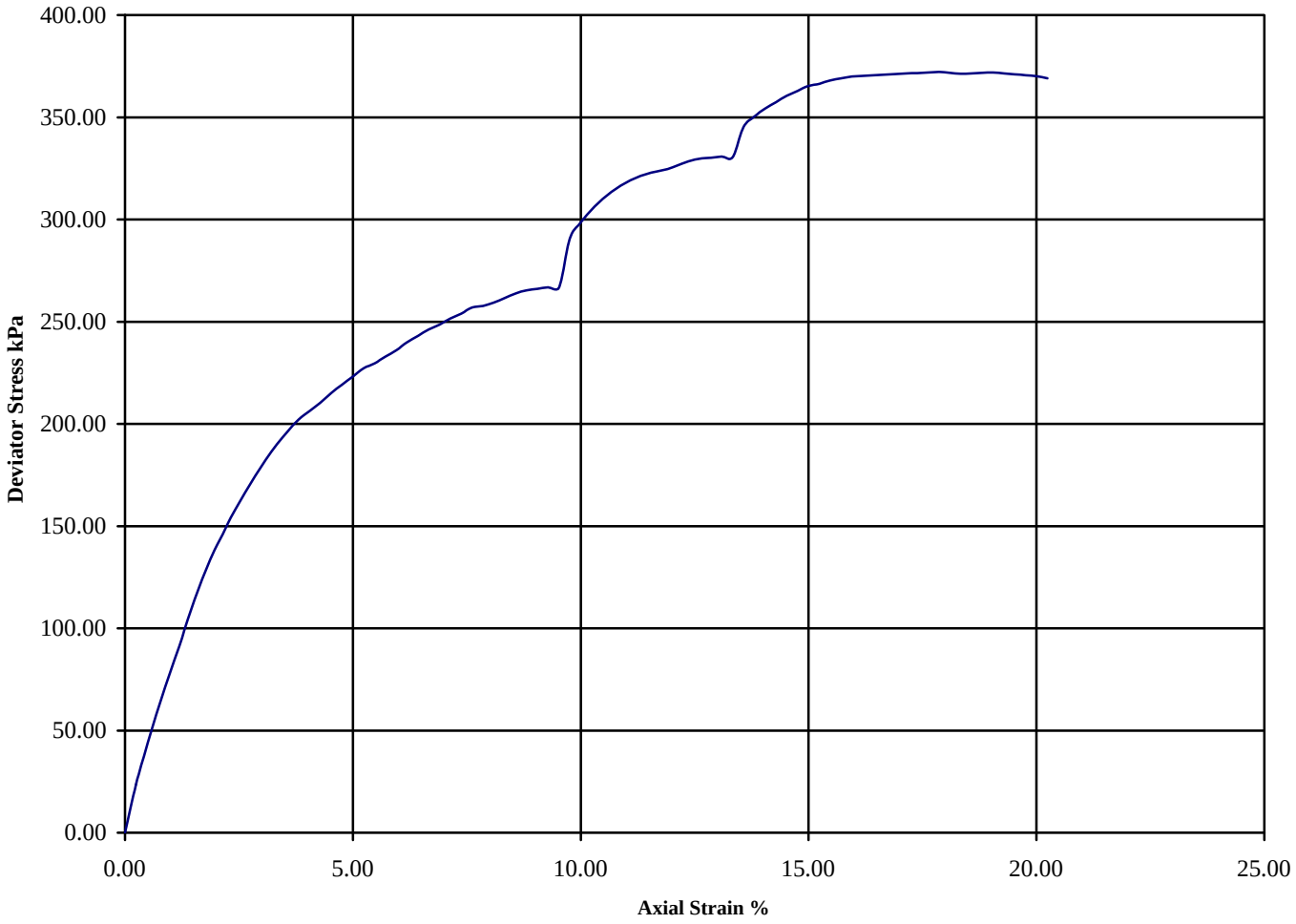
Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

B.S. 1377 : Part7 : Clause 9 : 1990

Hole Number: BH1 **Depth (m):** 2.00-2.45

Sample Number: 8 **Sample Type:** U



Diameter (mm):		102	Height (mm):		210	Test:	100mm Multistage		
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Diviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Remarks
A	13	2.06	1.82	40	267	133	9.5	Brittle	Sample taken from top of tube Rate of strain = 1.9 %/min Latex Membrane used 0.2 mm thickness Membrane Correction applied (kPa) 0.35 0.35 0.34
				80	331	165	13.1		See summary of soil descriptions.
				160	372	186	17.9		

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NORTH BIERLEY WWTW.

Contract No: PSL11/1223

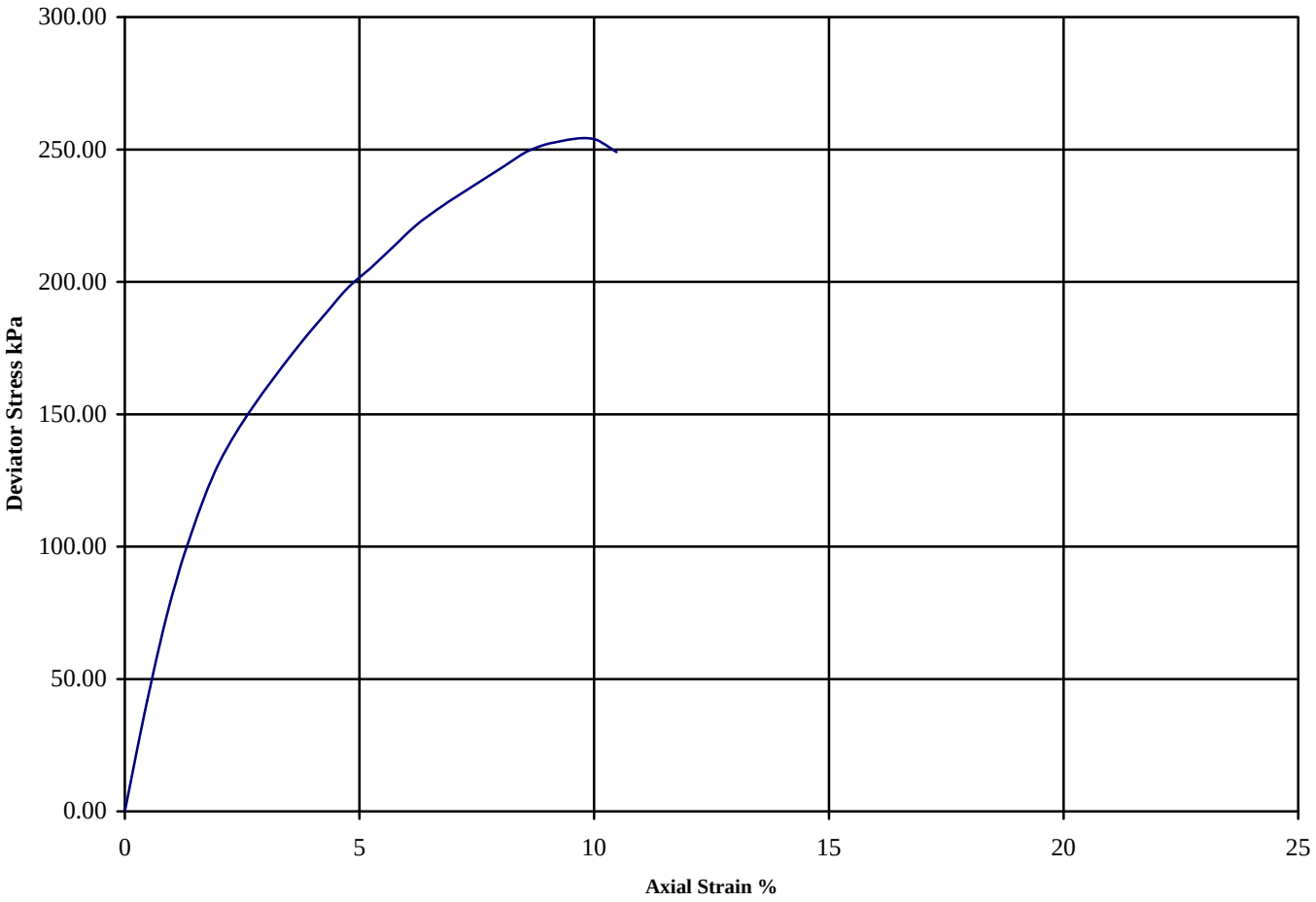
Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

B.S. 1377 : Part7 : Clause 8 : 1990

Hole Number: BH1 **Depth (m):** 3.50-3.95

Sample Number: 12 **Sample Type:** U



Diameter (mm):		102.0	Height (mm):		210.0	Test:	100 mm Single Stage. Undisturbed		
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Diviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Remarks
A	17	2.06	1.75	70	254	127	10.0	Brittle	Sample taken from top of tube Rate of strain = 1.9 %/min Latex Membrane used 0.2 mm thickness, Correction applied 0.35 kPa Single stage due to early brittle failure.

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NORTH BIERLEY WWTW.

Contract No: PSL11/1223

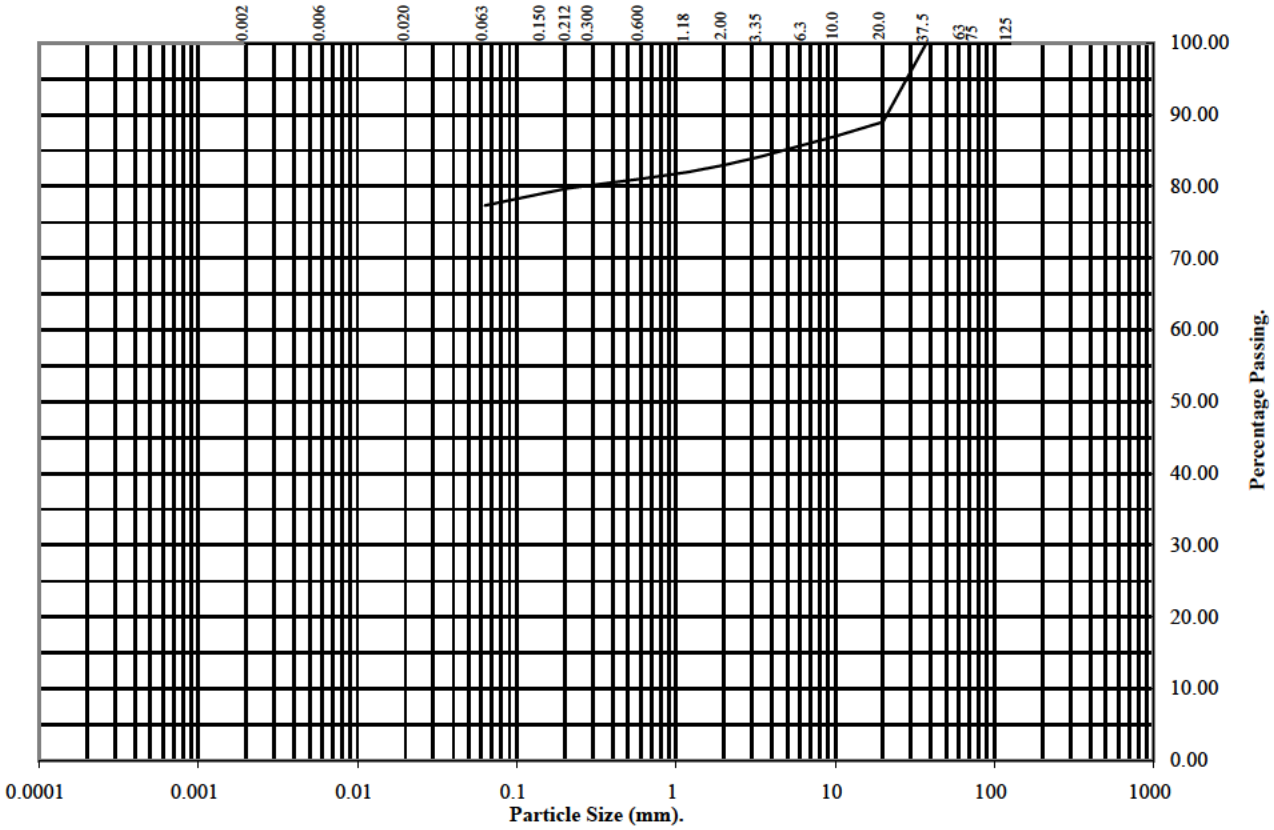
Particle Size Distribution Test

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: BH2 **Depth (m):** 2.00-2.60

Sample Number: 5 **Sample Type:** B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	89
10	87
6.3	86
3.35	84
2	83
1.18	82
0.6	81
0.3	80
0.212	80
0.15	79
0.063	77

Soil Fraction	Total Percentage
Cobbles	0
Gravel	17
Sand	6
Silt / Clay	77

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
RC	09/06/11	RC	09/06/11

PSL Professional Soils Laboratory	NORTH BIERLEY WWTW.	Contract No.: PSL11/1223

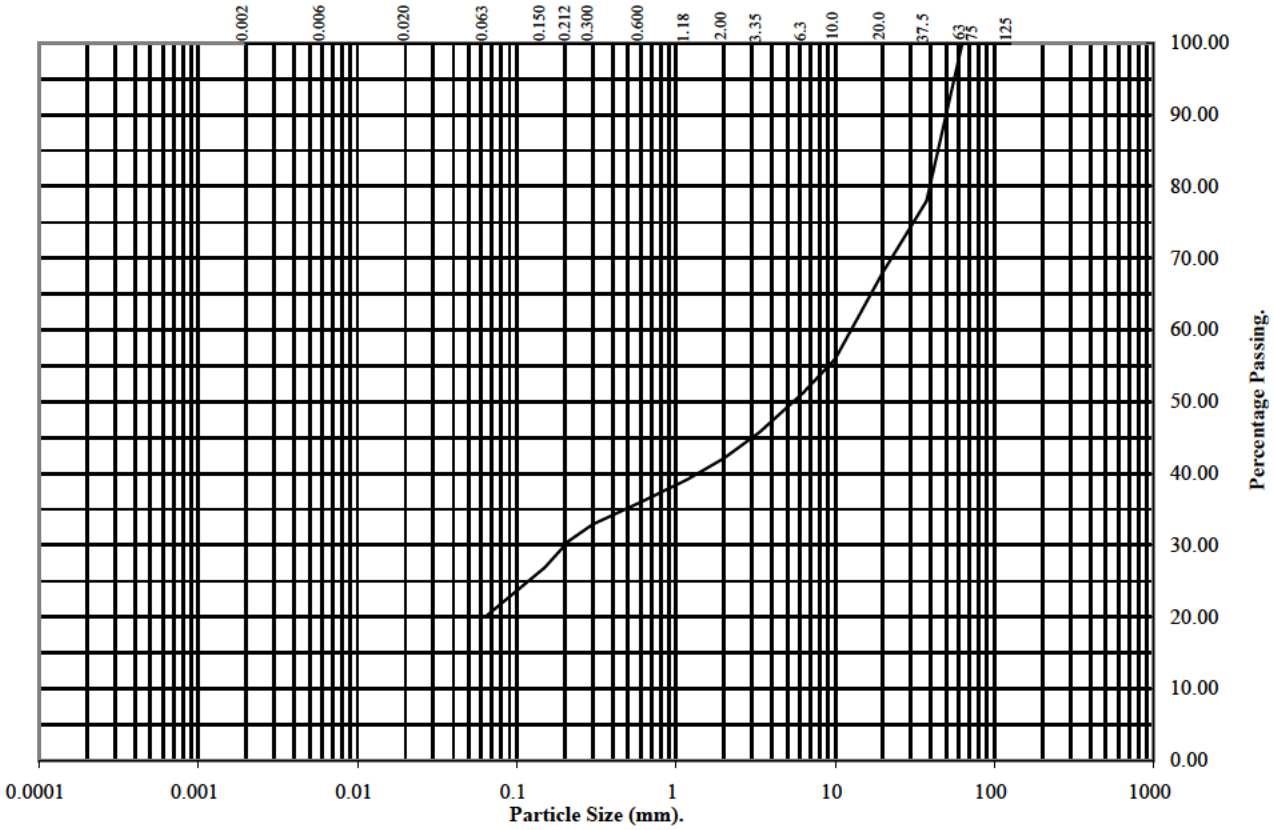
Particle Size Distribution Test

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: BH2 **Depth (m):** 6.60-7.10

Sample Number: 17 **Sample Type:** B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	78
20	68
10	56
6.3	51
3.35	46
2	42
1.18	39
0.6	36
0.3	33
0.212	31
0.15	27
0.063	20

Soil Fraction	Total Percentage
Cobbles	0
Gravel	58
Sand	22
Silt / Clay	20

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
RC	09/06/11	RC	09/06/11

PSL Professional Soils Laboratory	NORTH BIERLEY WWTW.	Contract No.: PSL11/1223

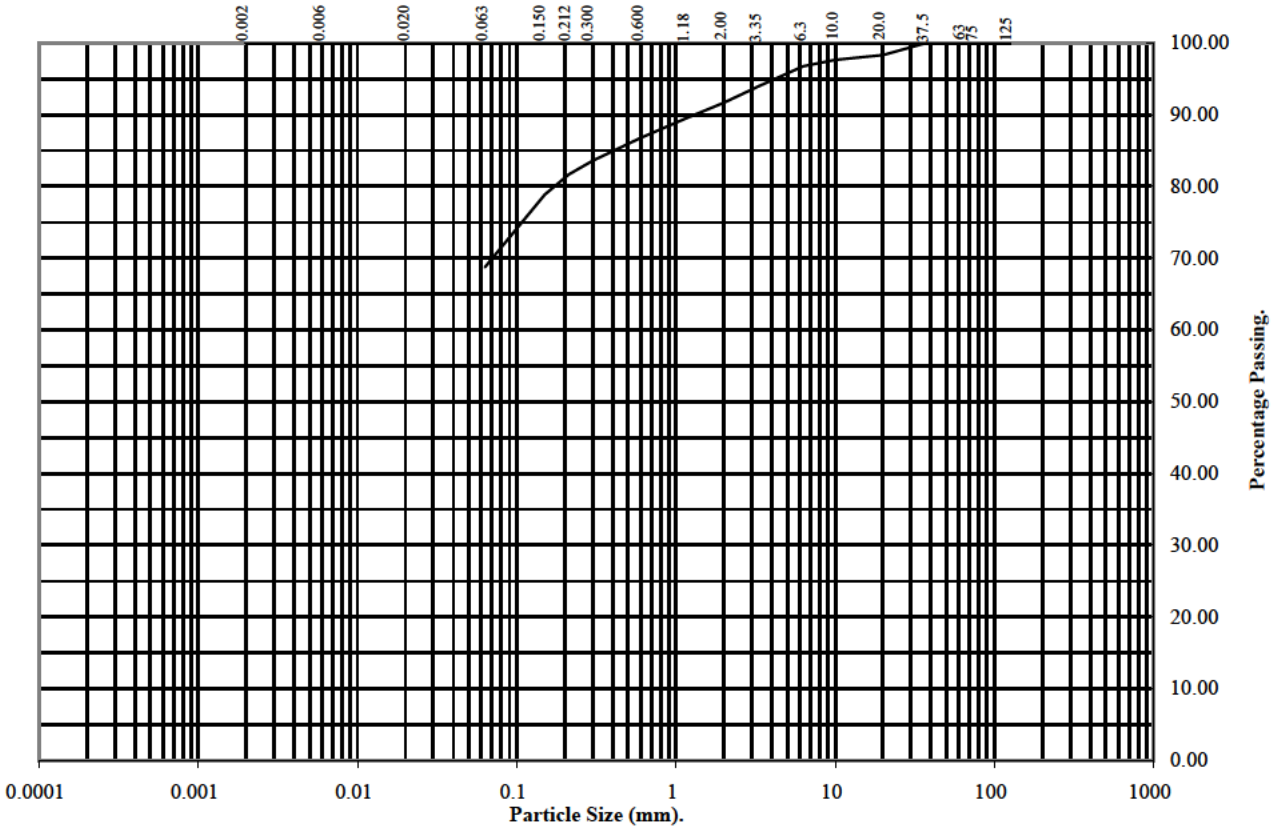
Particle Size Distribution Test

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: BH3 **Depth (m):** 1.10-1.70

Sample Number: 6 **Sample Type:** B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	98
10	98
6.3	97
3.35	94
2	92
1.18	90
0.6	87
0.3	84
0.212	82
0.15	79
0.063	69

Soil Fraction	Total Percentage
Cobbles	0
Gravel	8
Sand	23
Silt / Clay	69

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
RC	09/06/11	RC	09/06/11

PSL Professional Soils Laboratory	NORTH BIERLEY WWTW.	Contract No.: PSL11/1223

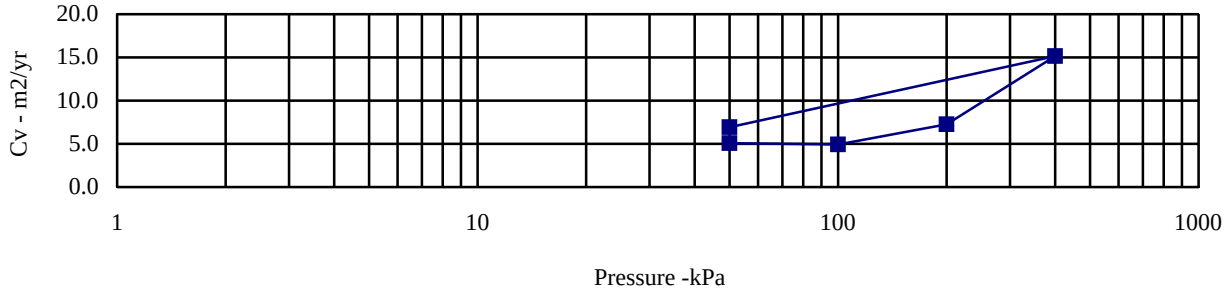
One Dimensional Consolidation Properties

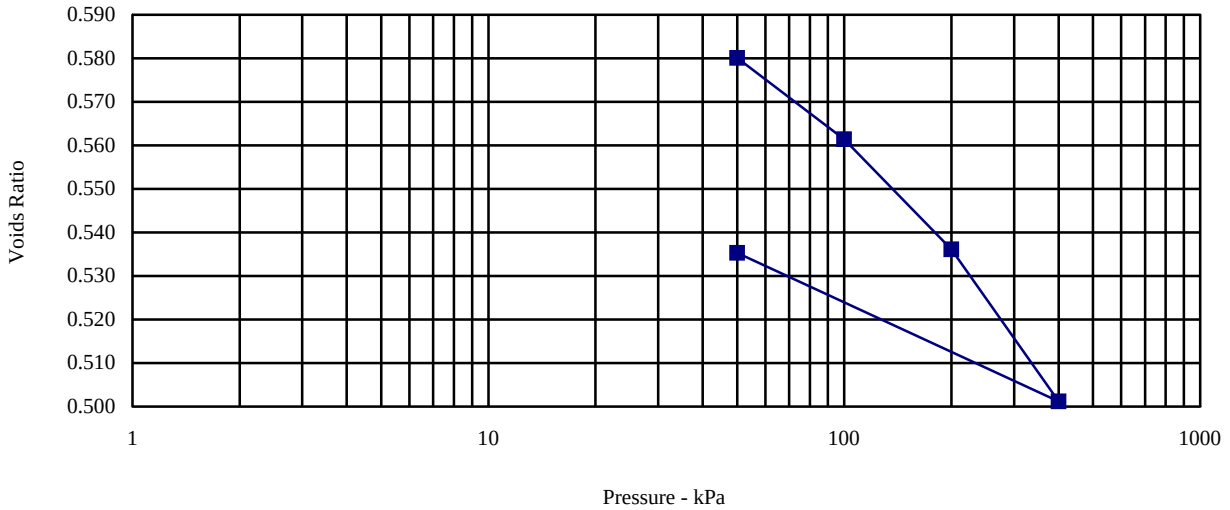
BS 1377: Part 5: 1990

Hole Number: BH3 **Depth (m): 1.20-1.65**

Sample Number: 4 **Sample Type: U**

Initial Conditions		Pressure Range kPa			Mv m2/MN	Cv m2/yr	Specimen location within tube:	Top
Moisture Content (%):	24							
Bulk Density (Mg/m3):	2.05	0	-	50	0.259	5.057	Method used to	
Dry Density (Mg/m3):	1.66	50	-	100	0.236	4.932	determine CV:	t90
Voids Ratio:	0.6008	100	-	200	0.162	7.248	Nominal temperature	
Degree of saturation:	104.2	200	-	400	0.114	15.148	during test ' C:	20
Height (mm):	19.82	400	-	50	0.065	6.916	Remarks:	
Diameter (mm)	75.12						See summary of soils description.	
Particle Density (Mg/m3):	2.65							
Assumed								





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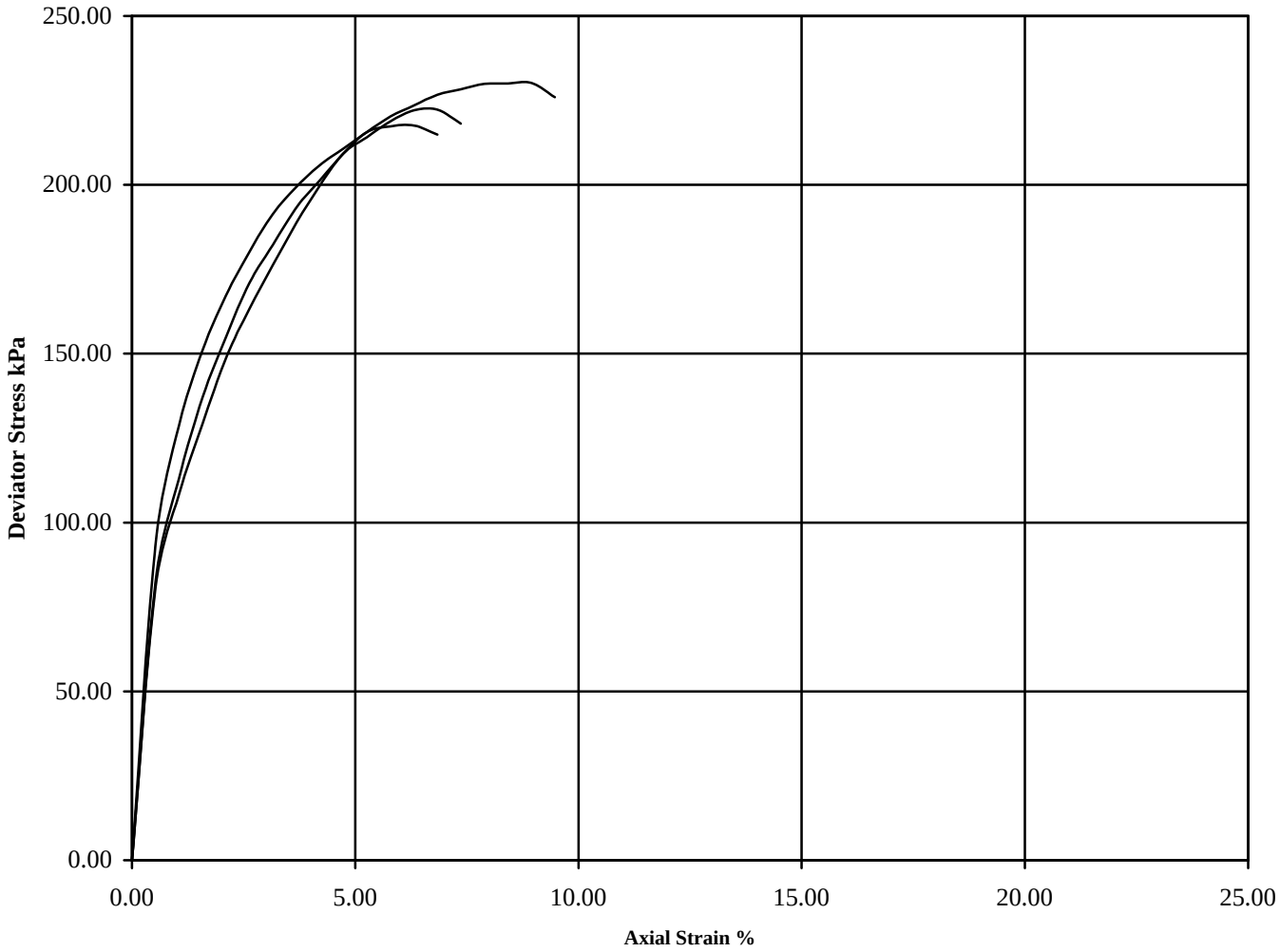
PSL Professional Soils Laboratory	**NORTH BIERLEY WWTW.**	**Contract No. PSL11/1223** Page of

Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure
B.S. 1377 : Part7 : Clause 8 : 1990

Hole Number: **BH3** **Depth (m):** **1.20-1.65**

Sample Number: **4** **Sample Type:** **U**



Diameter (mm):		38	Height (mm):		76	Test:	Set of Three, 38 mm Samples.		
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa)	Deviator Stress (kPa)	Cohesion (kPa)	Failure Strain (%)	Mode of Failure	Remarks
1	22.4	2.05	1.68	20	218	109	6.3	Brittle	Insufficient to carry out U100 triaxial
2	22.7	2.11	1.72	40	222	111	6.8	Brittle	
3	23.0	2.07	1.68	80	230	115	8.9	Brittle	

Checked and Approved By Date

09/06/11

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BORTH BIERLEY WWTW.

Contract No: **PSL11/1223**

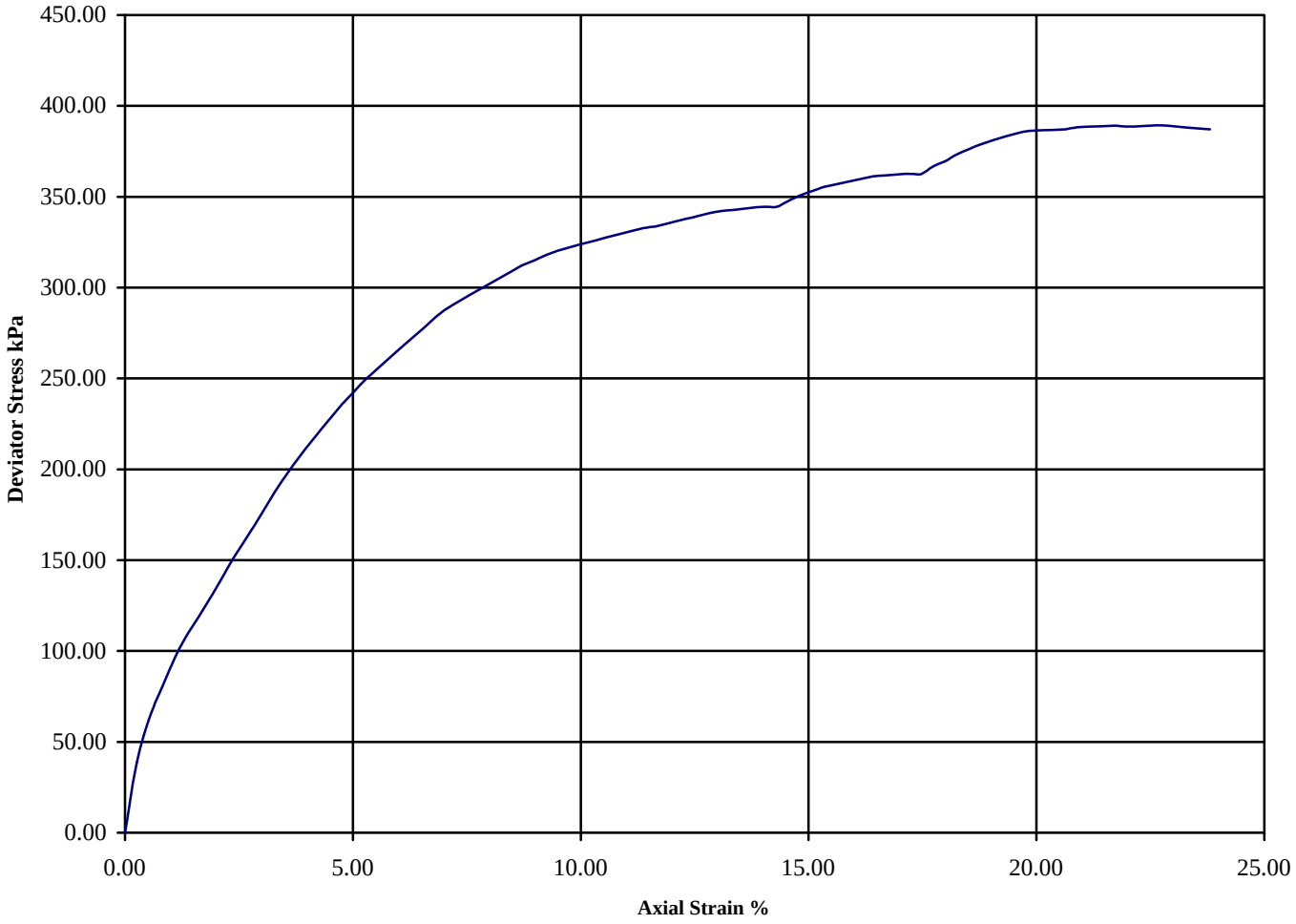
Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

B.S. 1377 : Part7 : Clause 9 : 1990

Hole Number: BH3 **Depth (m):** 2.30-2.70

Sample Number: 8 **Sample Type:** U



Diameter (mm):		102	Height (mm):		189	Test:	100mm Multistage		
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Diviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Remarks
									Sample taken from top of tube
									Rate of strain = 2.1 %/min
									Latex Membrane used 0.2 mm thickness
									Membrane Correction applied (kPa)
A	14	2.23	1.95	25	345	172	14.0	Brittle	0.35 0.34 0.33
				50	363	181	17.2		See summary of soil descriptions.
				100	389	195	22.8		

Checked	Date	Approved	Date
	09/06/11		09/06/11

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NORTH BIERLEY WWTW.

Contract No: PSL11/1223

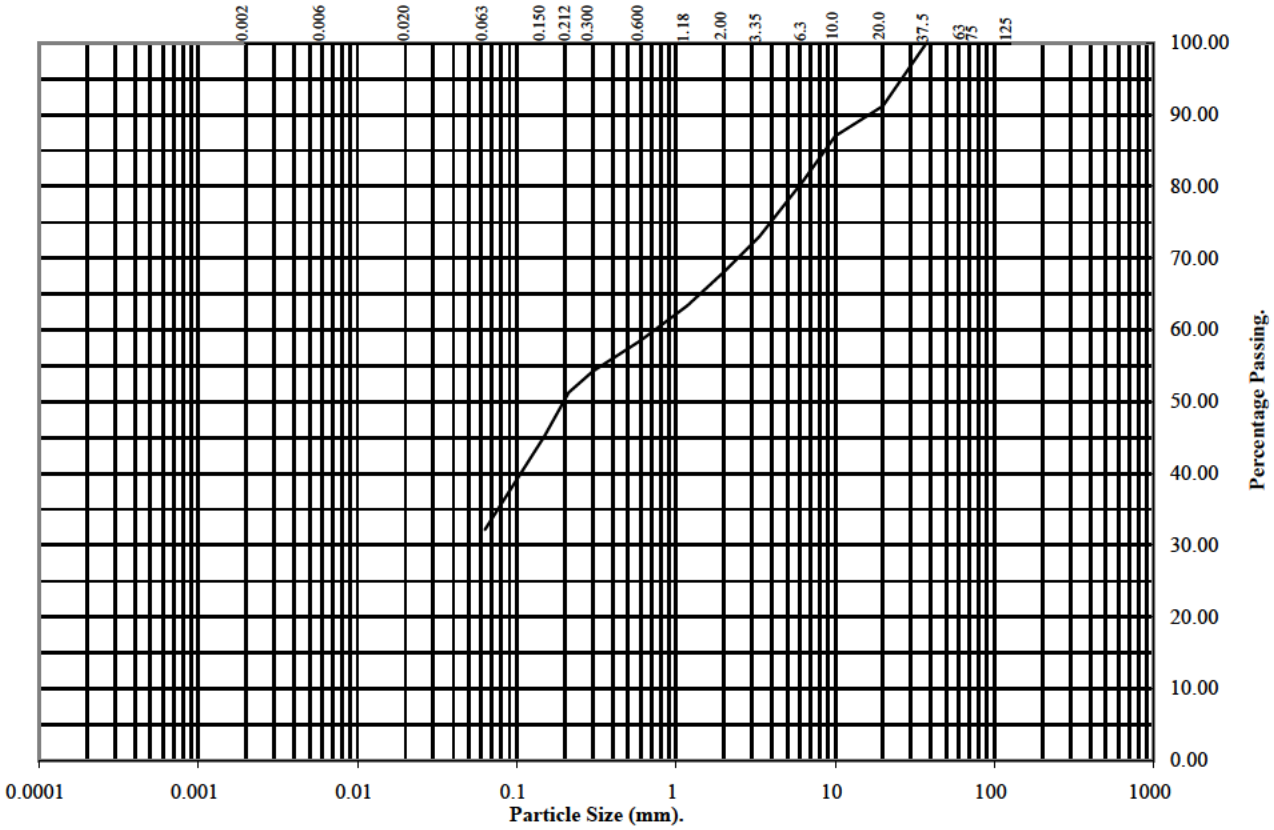
Particle Size Distribution Test

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: BH3 **Depth (m):** 4.70-5.20

Sample Number: 14 **Sample Type:** B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	91
10	87
6.3	81
3.35	73
2	68
1.18	63
0.6	59
0.3	54
0.212	51
0.15	45
0.063	32

Soil Fraction	Total Percentage
Cobbles	0
Gravel	32
Sand	36
Silt / Clay	32

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
RC	09/06/11	RC	09/06/11

PSL Professional Soils Laboratory	NORTH BIERLEY WWTW.	Contract No.: PSL11/1223

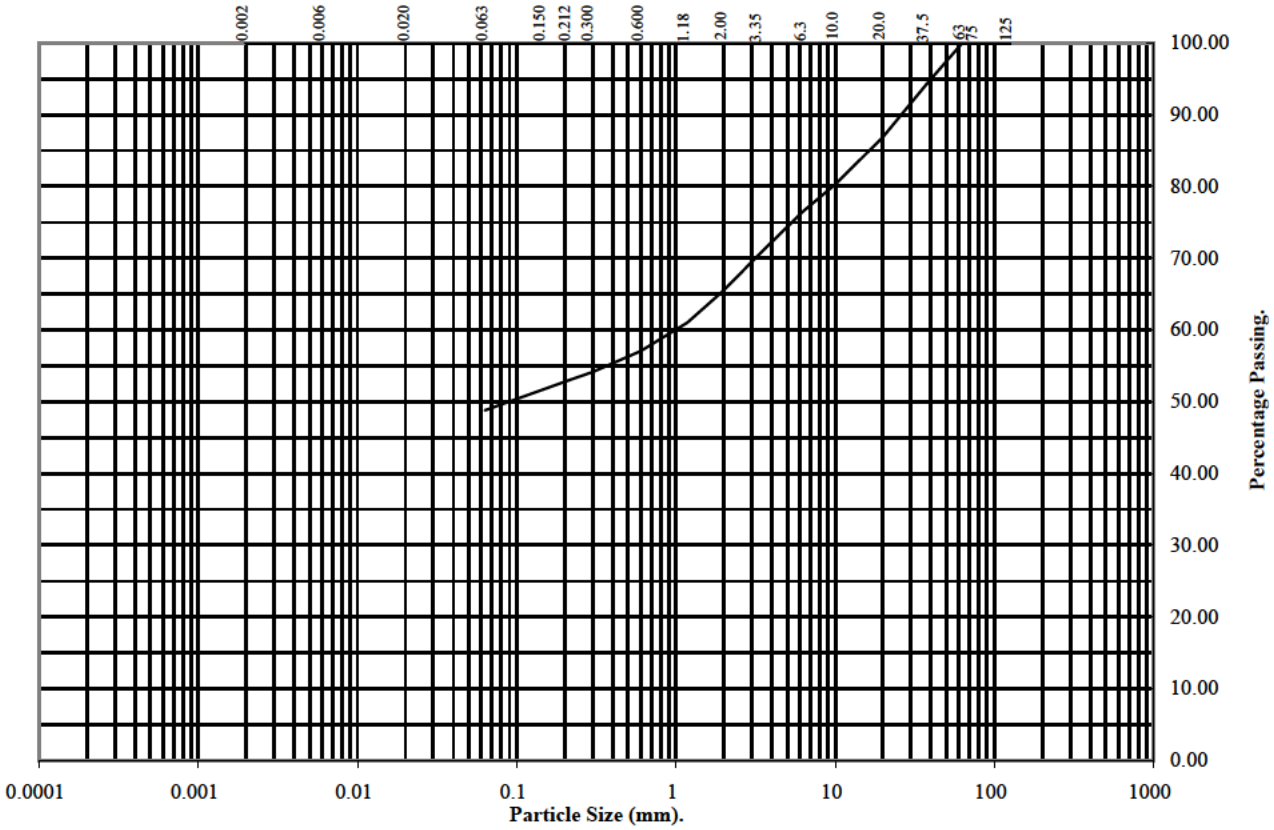
Particle Size Distribution Test

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: BH4 **Depth (m):** 0.50-1.00

Sample Number: 2 **Sample Type:** B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	94
20	87
10	80
6.3	77
3.35	71
2	66
1.18	61
0.6	57
0.3	54
0.212	53
0.15	52
0.063	49

Soil Fraction	Total Percentage
Cobbles	0
Gravel	34
Sand	17
Silt / Clay	49

Remarks:
See summary of soil descriptions.

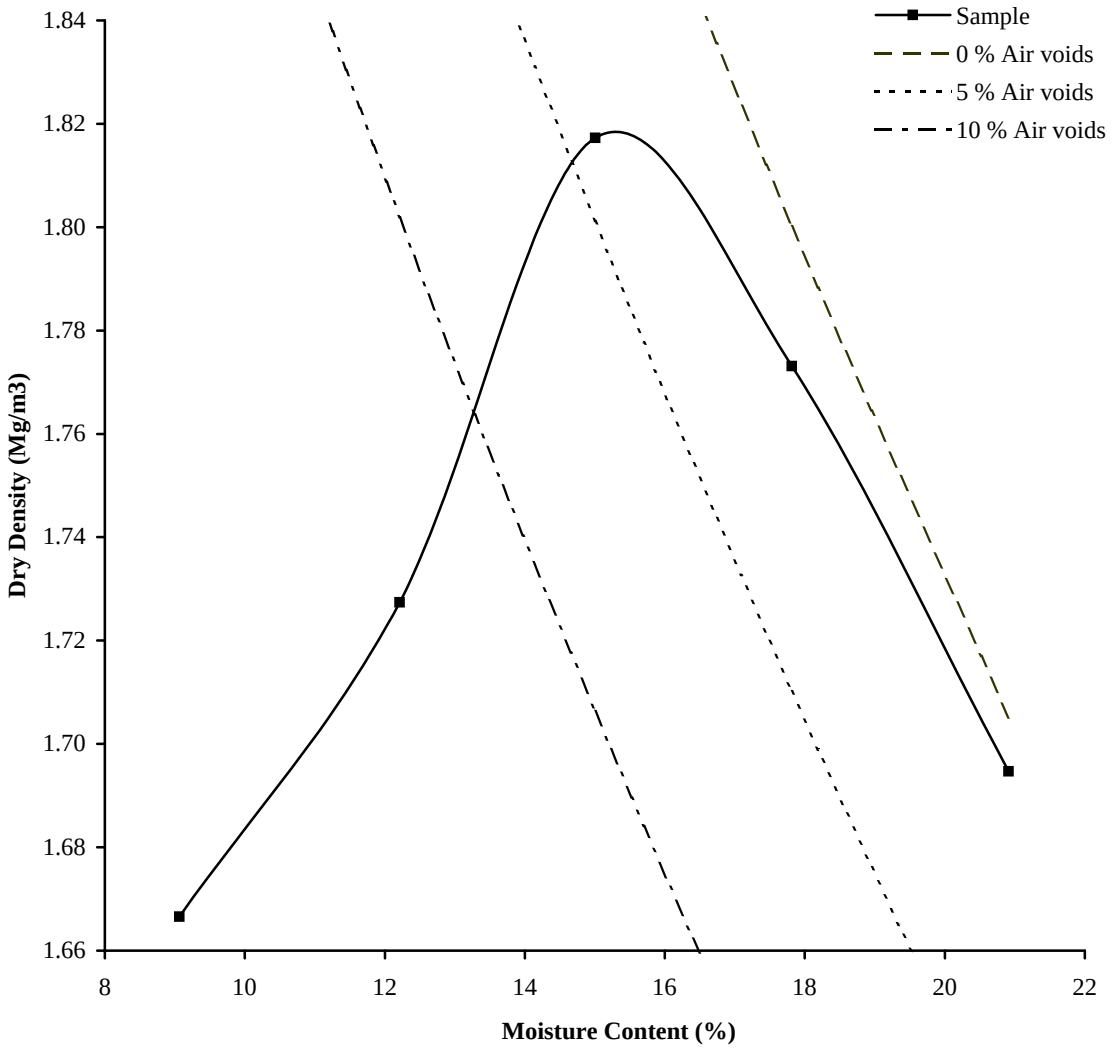
Checked By	Date	Approved By	Date
RC	09/06/11	RC	09/06/11

PSL Professional Soils Laboratory	NORTH BIERLEY WWTW.	Contract No.: PSL11/1223

Dry Density/Moisture Content Relationship Test

BS 1377 : Part 4 : 1990

Hole Number:	**BH4**	**Depth (m) :**	**1.20-2.40**
Sample Number:	**3,4**	**Sample Type:**	**B**



Initial Moisture Content:	18	Method of Compaction	2.5kg / Separate Sample	
Particle Density (Mg/m3):	2.65	Assumed	Material Retained on 37.5 mm Test Sieve (%):	1
Maximum Dry Density (Mg/m3):		1.82	Material Retained on 20.0 mm Test Sieve (%):	5
Optimum Moisture Content (%):		15		
Remarks	See Summary of Soil Descriptions.			

	Checked By	Date	Approved By	Date
	RC	09/06/11	RC	09/06/11

PSL Professional Soils Laboratory	**NORTH BIERLEY WWTW.**	**Contract No. PSL11/1223**

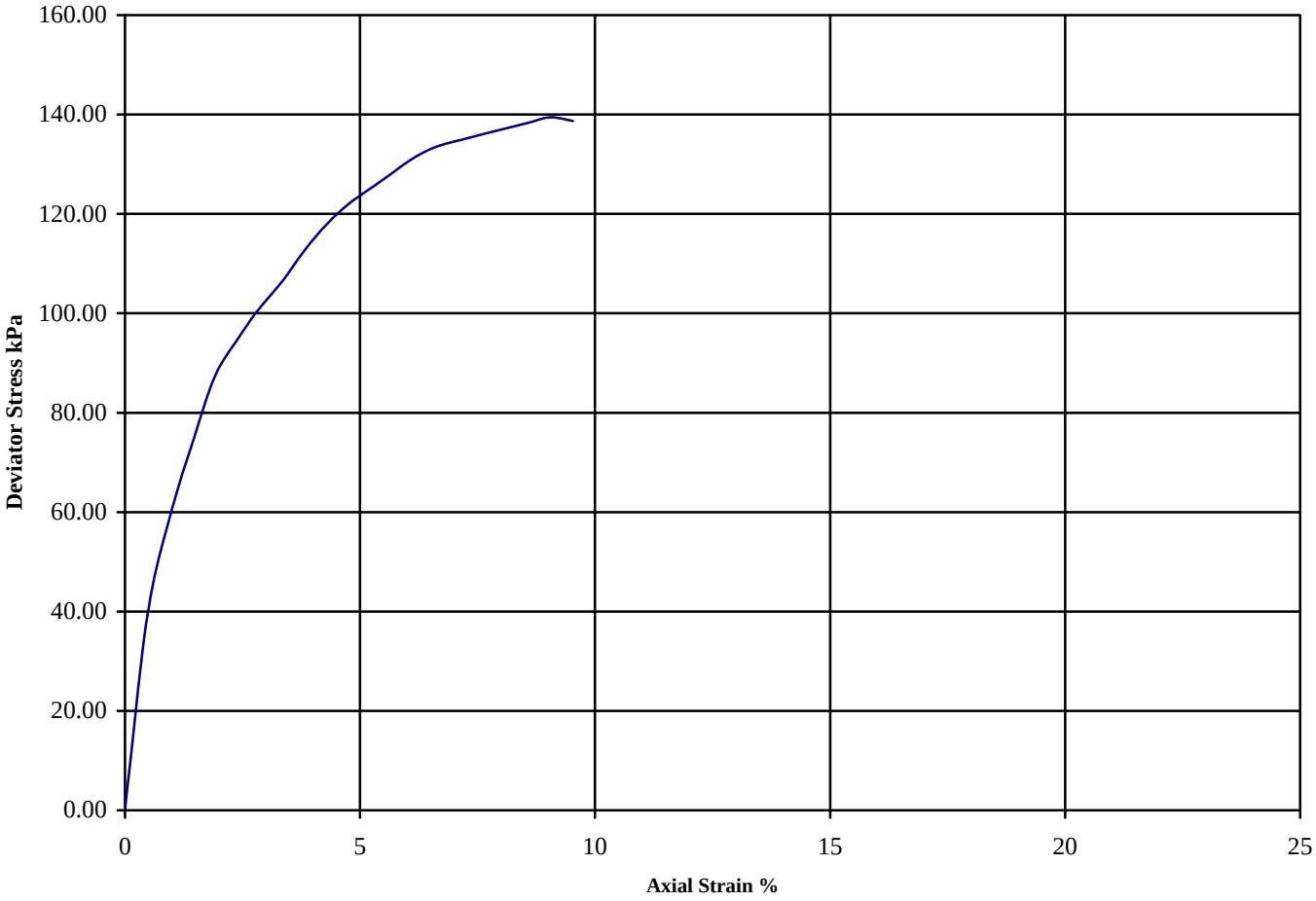
Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

B.S. 1377 : Part7 : Clause 8 : 1990

Hole Number: BH4 **Depth (m):** 2.50-2.95

Sample Number: 6 **Sample Type:** U



Diameter (mm):		102.0	Height (mm):		210.0	Test:	100 mm Single Stage. Undisturbed		
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Diviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Remarks
A	20	2.09	1.74	25	139	70	9.0	Brittle	Sample taken from top of tube Rate of strain = 1.9 %/min Latex Membrane used 0.2 mm thickness, Correction applied 0.36 kPa Single stage due to early brittle failure.

Checked	Date	Approved	Date
	09/06/11		09/06/11

PSL Professional Soils Laboratory

NORTH BIERLEY WWTW.

Contract No: PSL11/1223

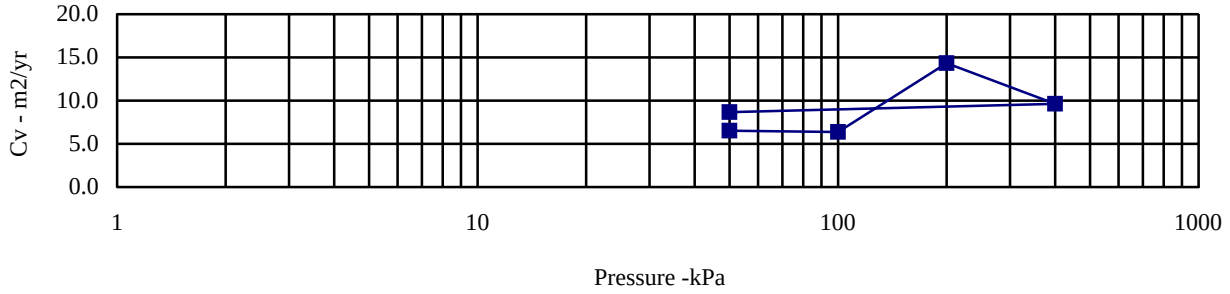
One Dimensional Consolidation Properties

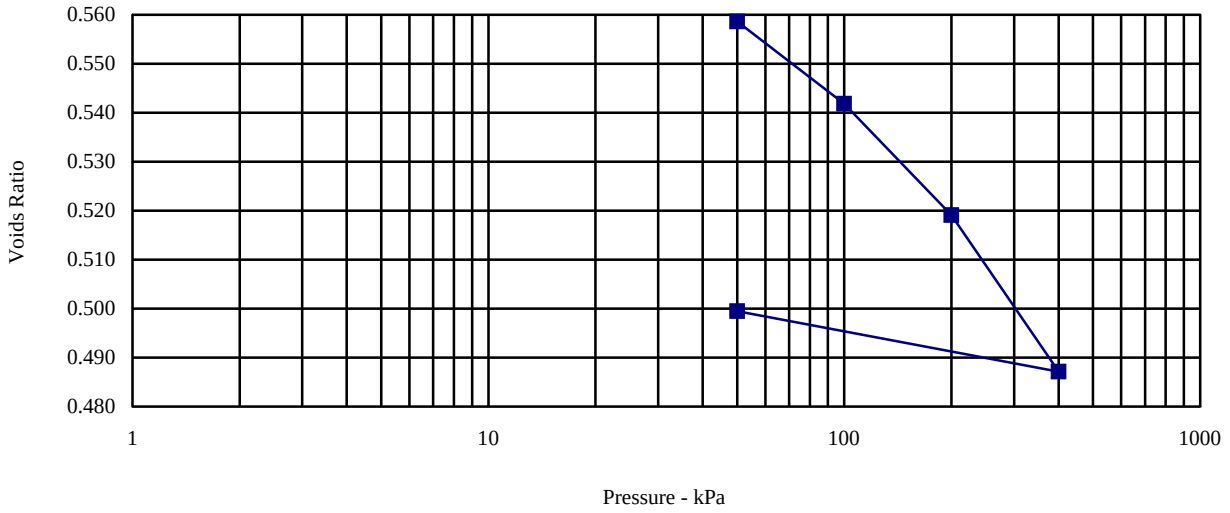
BS 1377: Part 5: 1990

Hole Number: BH4 **Depth (m): 4.50-4.95**

Sample Number: 9 **Sample Type: U**

Initial Conditions		Pressure Range kPa			Mv m2/MN	Cv m2/yr	Specimen location within tube:	Top
Moisture Content (%):	21							
Bulk Density (Mg/m3):	2.04	0	-	50	0.235	6.514	Method used to	
Dry Density (Mg/m3):	1.68	50	-	100	0.215	6.368	determine CV:	t90
Voids Ratio:	0.5771	100	-	200	0.147	14.339	Nominal temperature	
Degree of saturation:	97.9	200	-	400	0.105	9.612	during test ' C:	20
Height (mm):	19.84	400	-	50	0.024	8.668	Remarks:	
Diameter (mm)	75.18						See summary of soils description.	
Particle Density (Mg/m3):	2.65							
Assumed								





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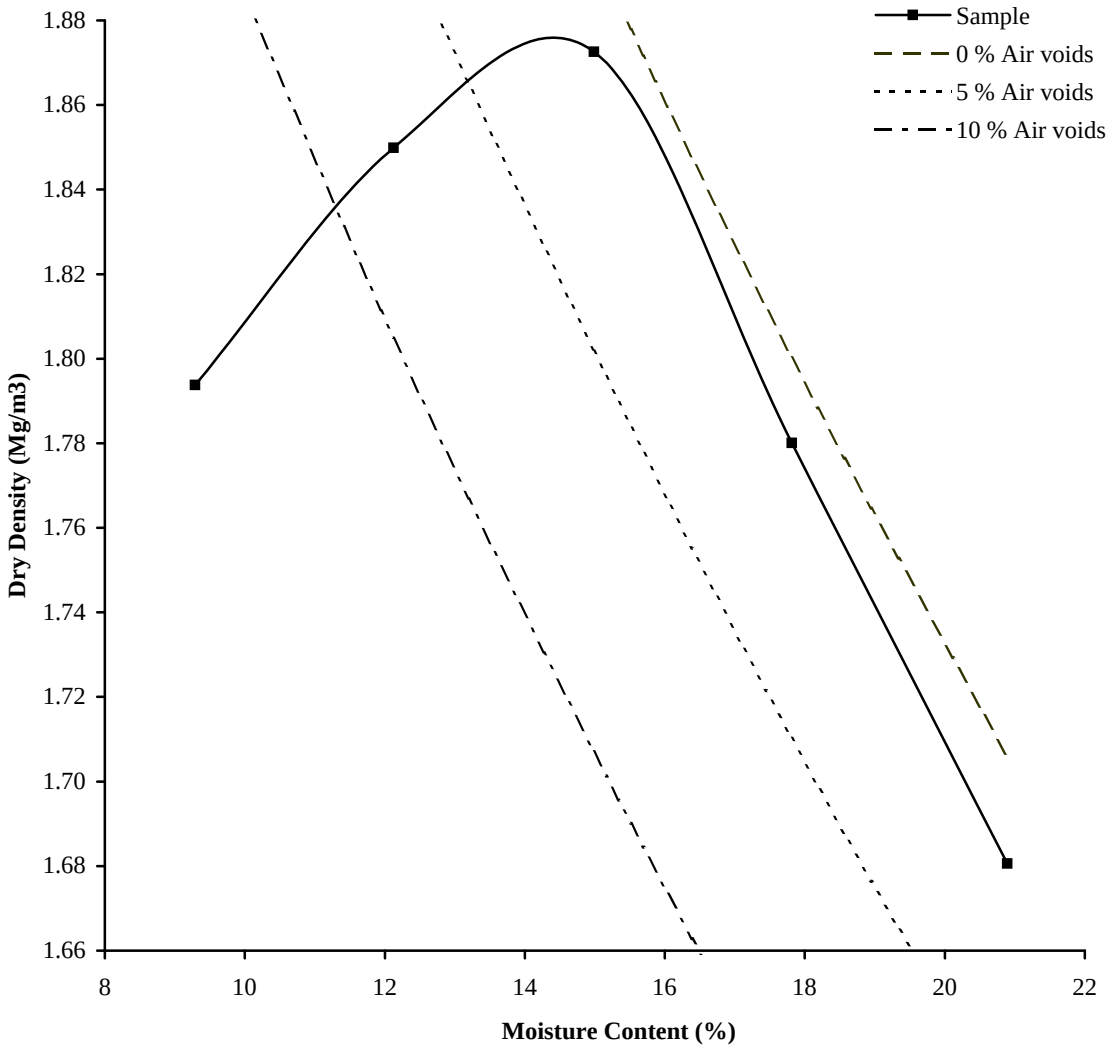
PSL Professional Soils Laboratory	**NORTH BIERLEY WWTW.**	**Contract No. PSL11/1223** Page of

Dry Density/Moisture Content Relationship Test

BS 1377 : Part 4 : 1990

Hole Number:	**BH5**	**Depth (m) :**	**0.50-2.70**
Sample Number:	**2,3,4**	**Sample Type:**	**B**



Initial Moisture Content:	15	Method of Compaction	2.5kg / Separate Sample	
Particle Density (Mg/m3):	2.65	Assumed	Material Retained on 37.5 mm Test Sieve (%):	12
Maximum Dry Density (Mg/m3):		1.87	Material Retained on 20.0 mm Test Sieve (%):	8
Optimum Moisture Content (%):		14		
Remarks	See Summary of Soil Descriptions.			

	Checked By	Date	Approved By	Date
	RC	09/06/11	RC	09/06/11

PSL Professional Soils Laboratory	**NORTH BIERLEY WWTW.**	**Contract No. PSL11/1223**

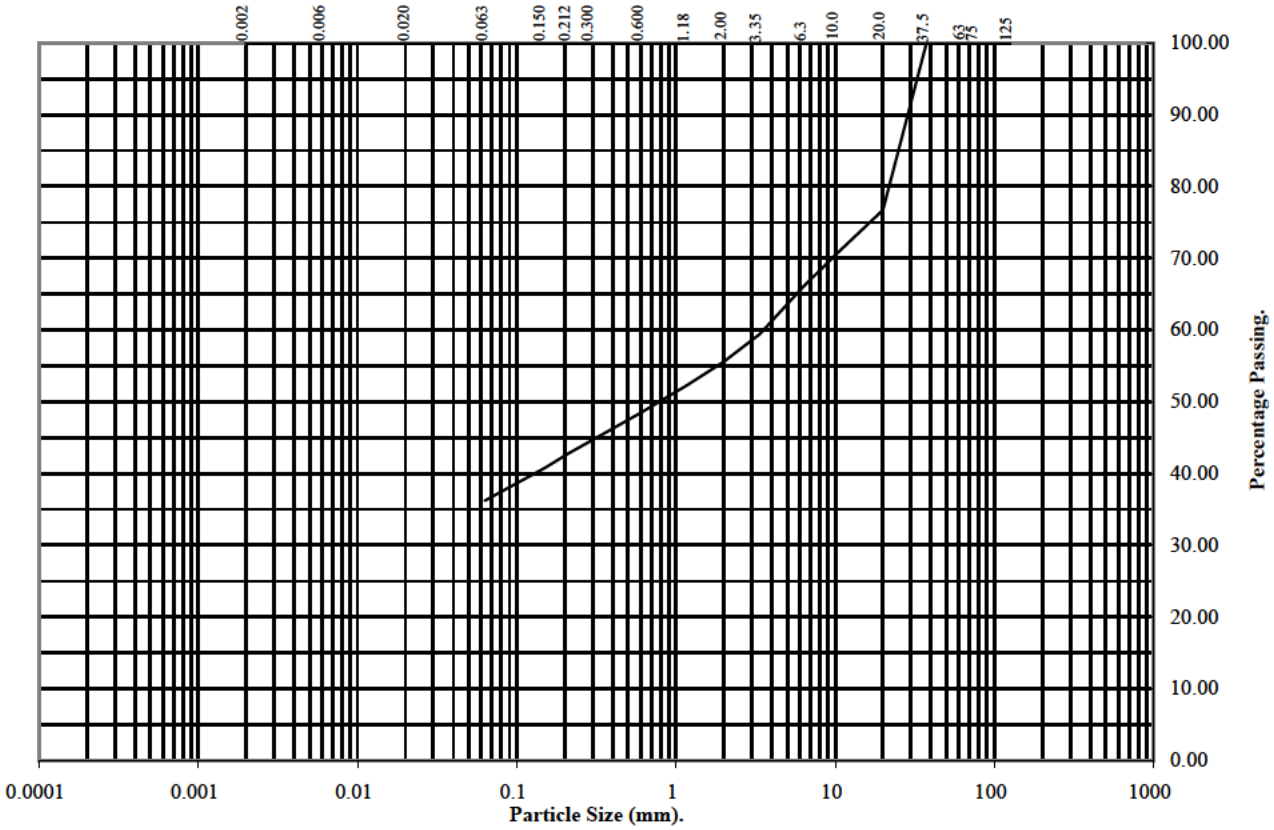
Particle Size Distribution Test

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: BH5 **Depth (m):** 3.20-7.50

Sample Number: 5,7 **Sample Type:** B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	77
10	70
6.3	66
3.35	59
2	56
1.18	52
0.6	48
0.3	45
0.212	43
0.15	41
0.063	36

Soil Fraction	Total Percentage
Cobbles	0
Gravel	44
Sand	20
Silt / Clay	36

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
RC	09/06/11	RC	09/06/11

PSL Professional Soils Laboratory	NORTH BIERLEY WWTW.	Contract No.: PSL11/1223

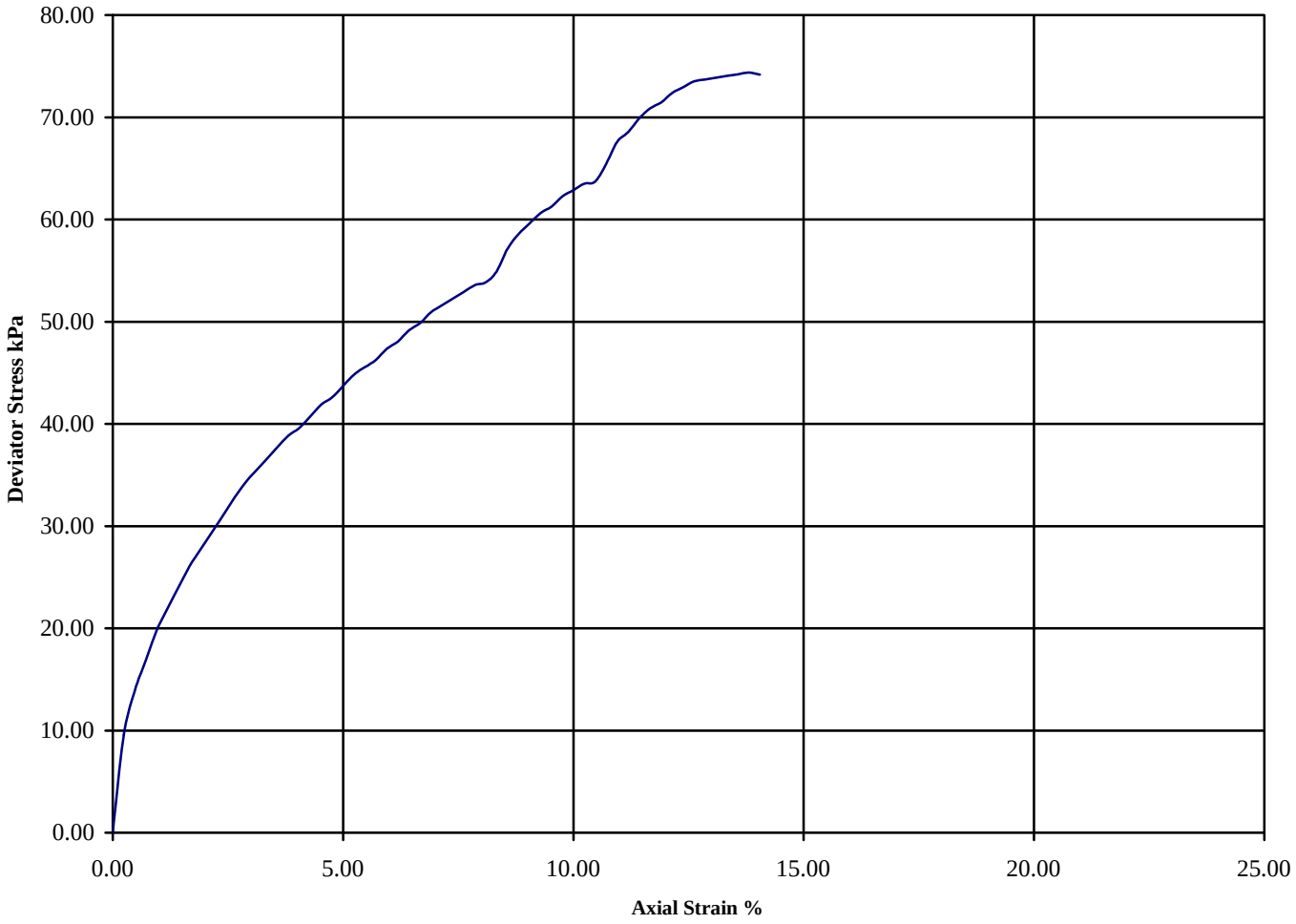
Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

B.S. 1377 : Part7 : Clause 9 : 1990

Hole Number: BH5 **Depth (m):** 5.70-6.15

Sample Number: 10 **Sample Type:** U



Diameter (mm):		102	Height (mm):		210	Test:	100mm Multistage		
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Diviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Remarks
									Sample taken from top of tube
									Rate of strain = 1.9 %/min
									Latex Membrane used 0.2 mm thickness
									Membrane Correction applied (kPa)
A	31	1.97	1.50	50	54	27	8.1	Compound	0.36 0.35 0.35
				100	64	32	10.5		See summary of soil descriptions.
				200	74	37	13.8		

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NORTH BIERLEY WWTW.

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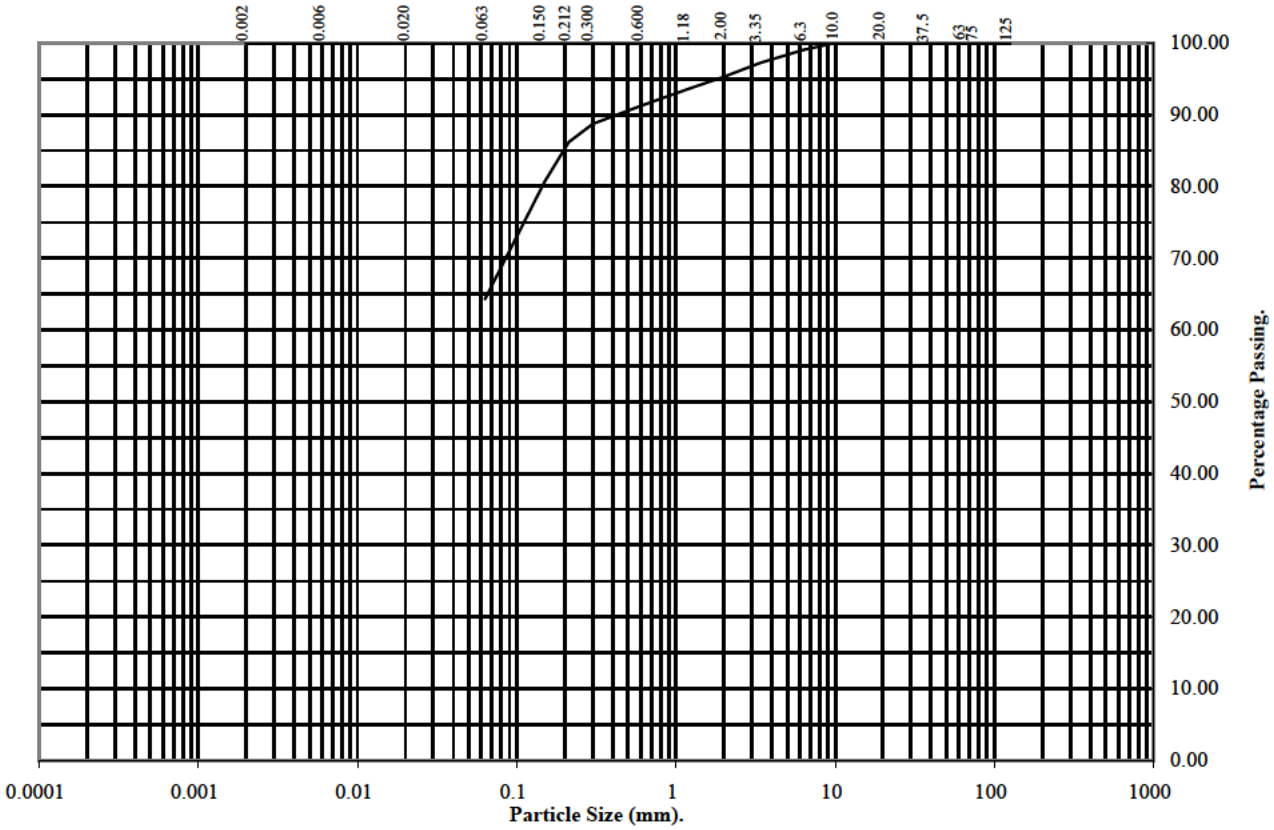
Particle Size Distribution Test

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: BH5 **Depth (m):** 5.80-6.50

Sample Number: 12 **Sample Type:** B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	100
10	100
6.3	99
3.35	97
2	95
1.18	94
0.6	91
0.3	89
0.212	86
0.15	81
0.063	64

Soil Fraction	Total Percentage
Cobbles	0
Gravel	5
Sand	31
Silt / Clay	64

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
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PSL Professional Soils Laboratory	NORTH BIERLEY WWTW.	Contract No.: PSL11/1223

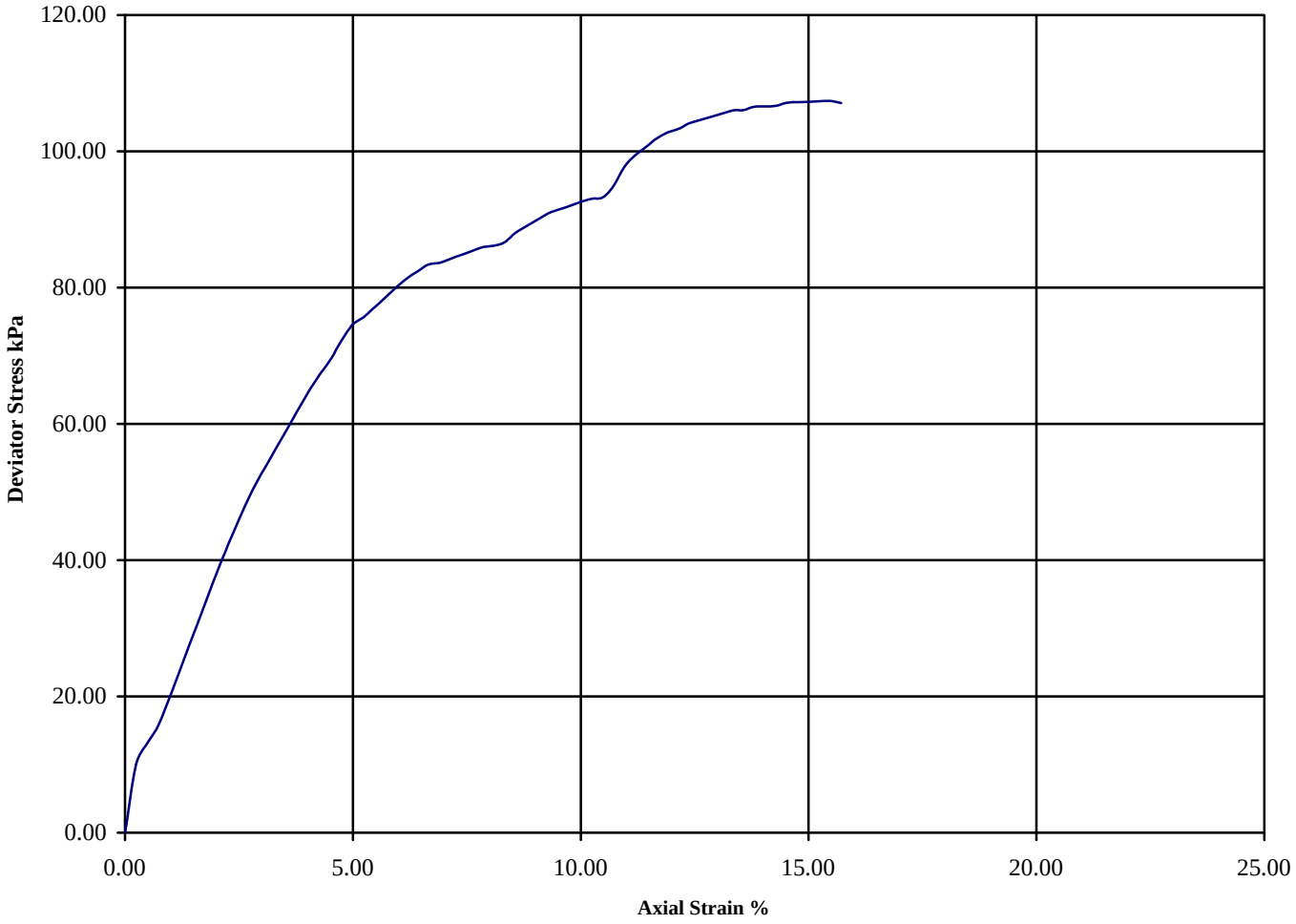
Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

B.S. 1377 : Part7 : Clause 9 : 1990

Hole Number: BH5 **Depth (m):** 6.70-7.15

Sample Number: 13 **Sample Type:** U



Diameter (mm):		102	Height (mm):		210	Test:	100mm Multistage		
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Diviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Remarks
A	22	2.08	1.70	50	86	43	8.1	Plastic	Sample taken from top of tube Rate of strain = 1.9 %/min Latex Membrane used 0.2 mm thickness Membrane Correction applied (kPa) 0.36 0.35 0.34
				100	93	47	10.5		See summary of soil descriptions.
				200	107	54	15.5		

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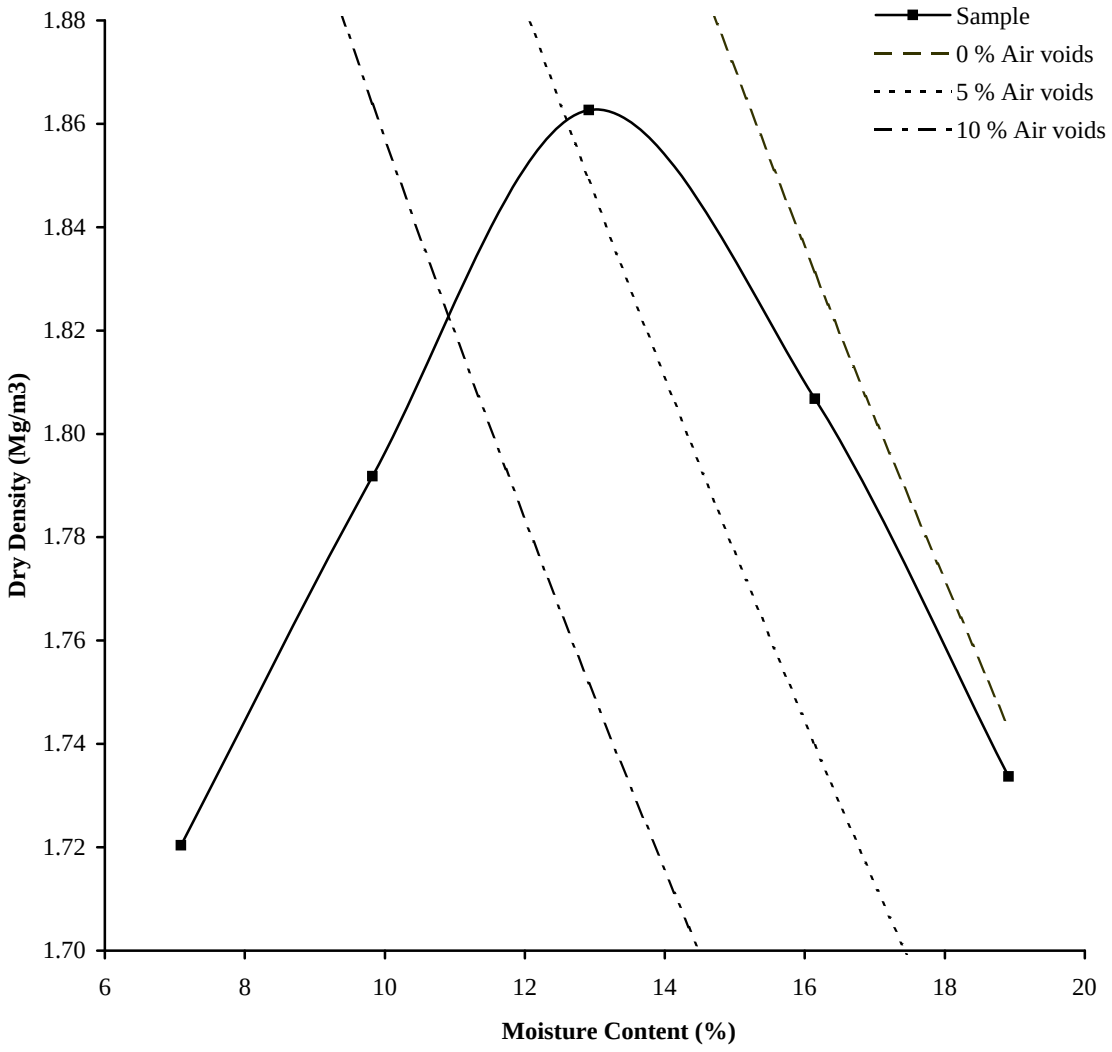
NORTH BIERLEY WWTW.

Contract No: PSL11/1223

Dry Density/Moisture Content Relationship Test

BS 1377 : Part 4 : 1990

Hole Number:	**BH6**	**Depth (m) :**	**0.50-1.80**
Sample Number:	**2,3,4**	**Sample Type:**	**U**



Initial Moisture Content:	13	Method of Compaction	2.5kg / Separate Sample	
Particle Density (Mg/m3):	2.60	Assumed	Material Retained on 37.5 mm Test Sieve (%):	4
Maximum Dry Density (Mg/m3):		1.86	Material Retained on 20.0 mm Test Sieve (%):	4
Optimum Moisture Content (%):		13		
Remarks	See Summary of Soil Descriptions.			

	Checked By	Date	Approved By	Date
	RC	09/06/11	RC	09/06/11

PSL Professional Soils Laboratory	**NORTH BIERLEY WWTW.**	**Contract No. PSL11/1223**

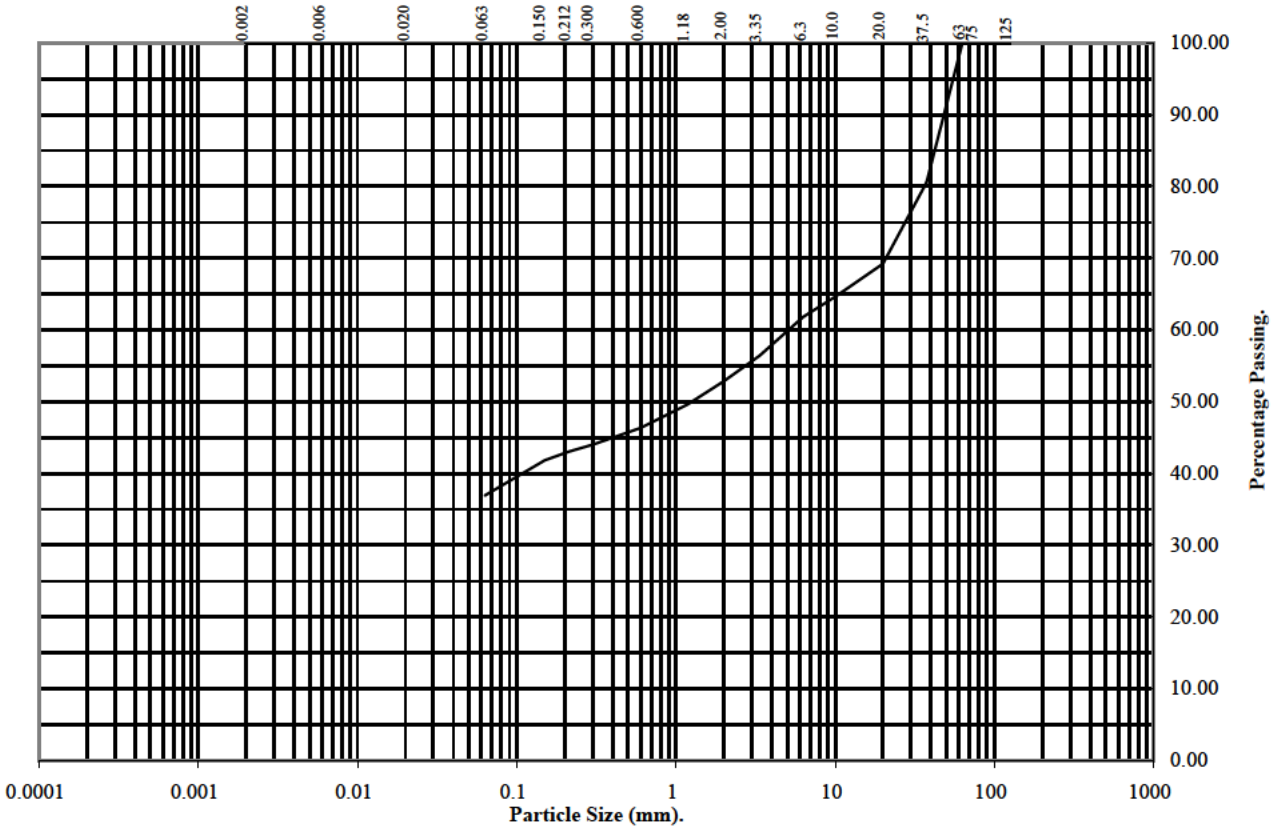
Particle Size Distribution Test

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: BH6 **Depth (m):** 2.20-2.90

Sample Number: 5 **Sample Type:** B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	81
20	69
10	65
6.3	62
3.35	56
2	53
1.18	50
0.6	46
0.3	44
0.212	43
0.15	42
0.063	37

Soil Fraction	Total Percentage
Cobbles	0
Gravel	47
Sand	16
Silt / Clay	37

Remarks:
See summary of soil descriptions.

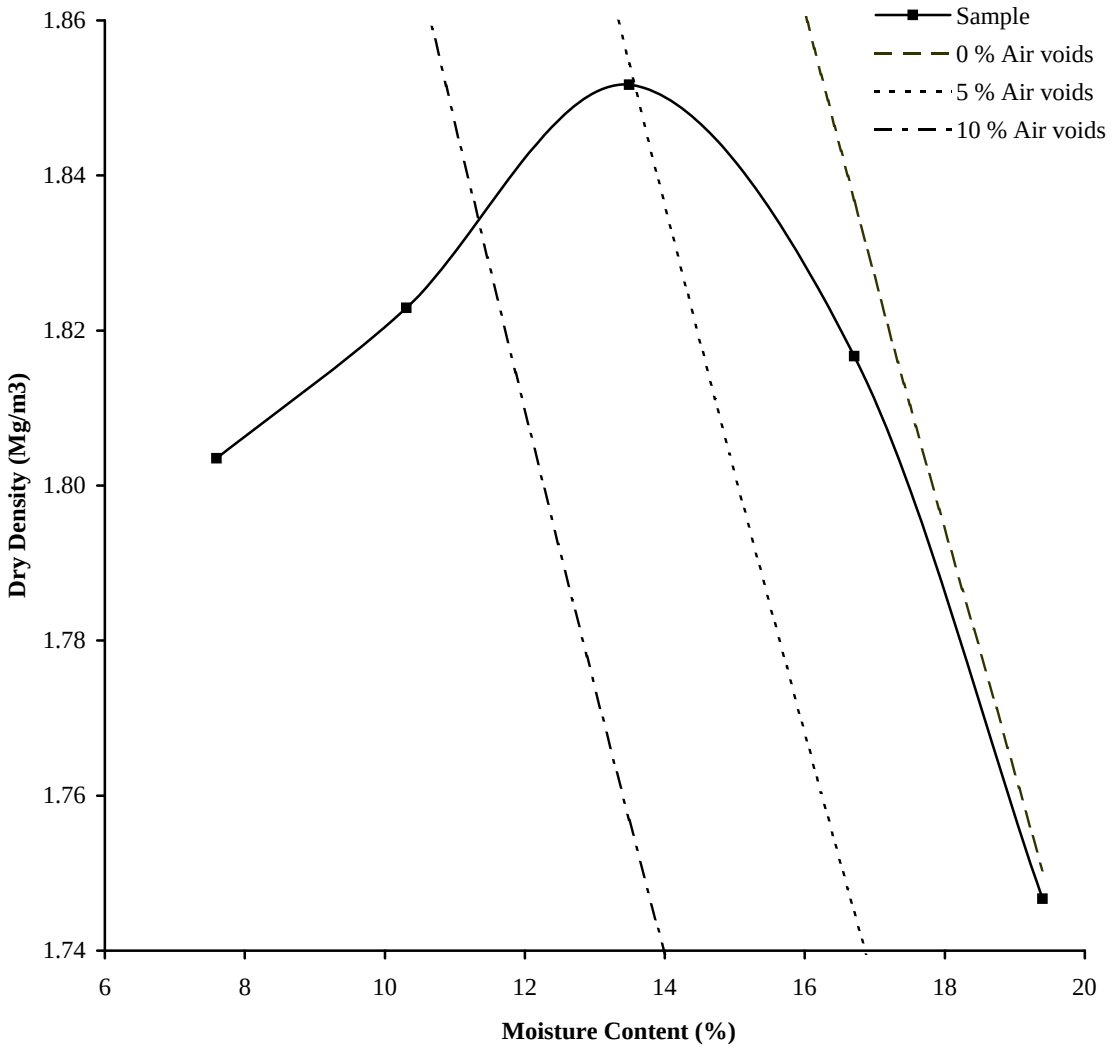
Checked By	Date	Approved By	Date
RC	09/06/11	RC	09/06/11

PSL Professional Soils Laboratory	NORTH BIERLEY WWTW.	Contract No.: PSL11/1223

Dry Density/Moisture Content Relationship Test

BS 1377 : Part 4 : 1990

Hole Number:	**BH6**	**Depth (m) :**	**5.20-6.70**
Sample Number:	**10,11**	**Sample Type:**	**U**



Initial Moisture Content:	17	Method of Compaction	2.5kg / Separate Sample	
Particle Density (Mg/m3):	2.65	Assumed	Material Retained on 37.5 mm Test Sieve (%):	18
Maximum Dry Density (Mg/m3):		1.85	Material Retained on 20.0 mm Test Sieve (%):	4
Optimum Moisture Content (%):		13		
Remarks	See Summary of Soil Descriptions.			

	Checked By	Date	Approved By	Date
	RC	09/06/11	RC	09/06/11

PSL Professional Soils Laboratory	**NORTH BIERLEY WWTW.**	**Contract No. PSL11/1223**

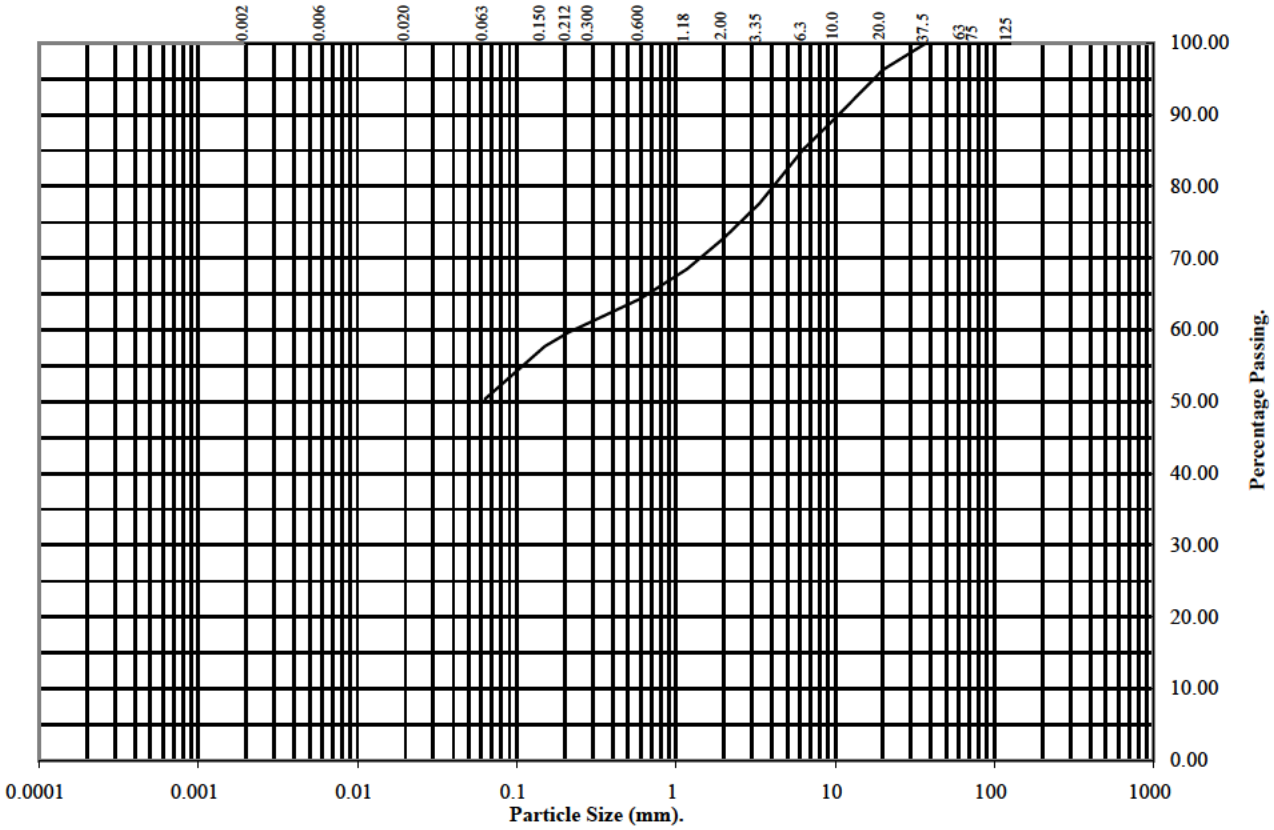
Particle Size Distribution Test

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: BH6 **Depth (m):** 5.20-6.70

Sample Number: 10 **Sample Type:** B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	96
10	90
6.3	85
3.35	78
2	73
1.18	69
0.6	64
0.3	61
0.212	60
0.15	58
0.063	50

Soil Fraction	Total Percentage
Cobbles	0
Gravel	27
Sand	23
Silt / Clay	50

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
RC	09/06/11	RC	09/06/11

PSL Professional Soils Laboratory	NORTH BIERLEY WWTW.	Contract No.: PSL11/1223

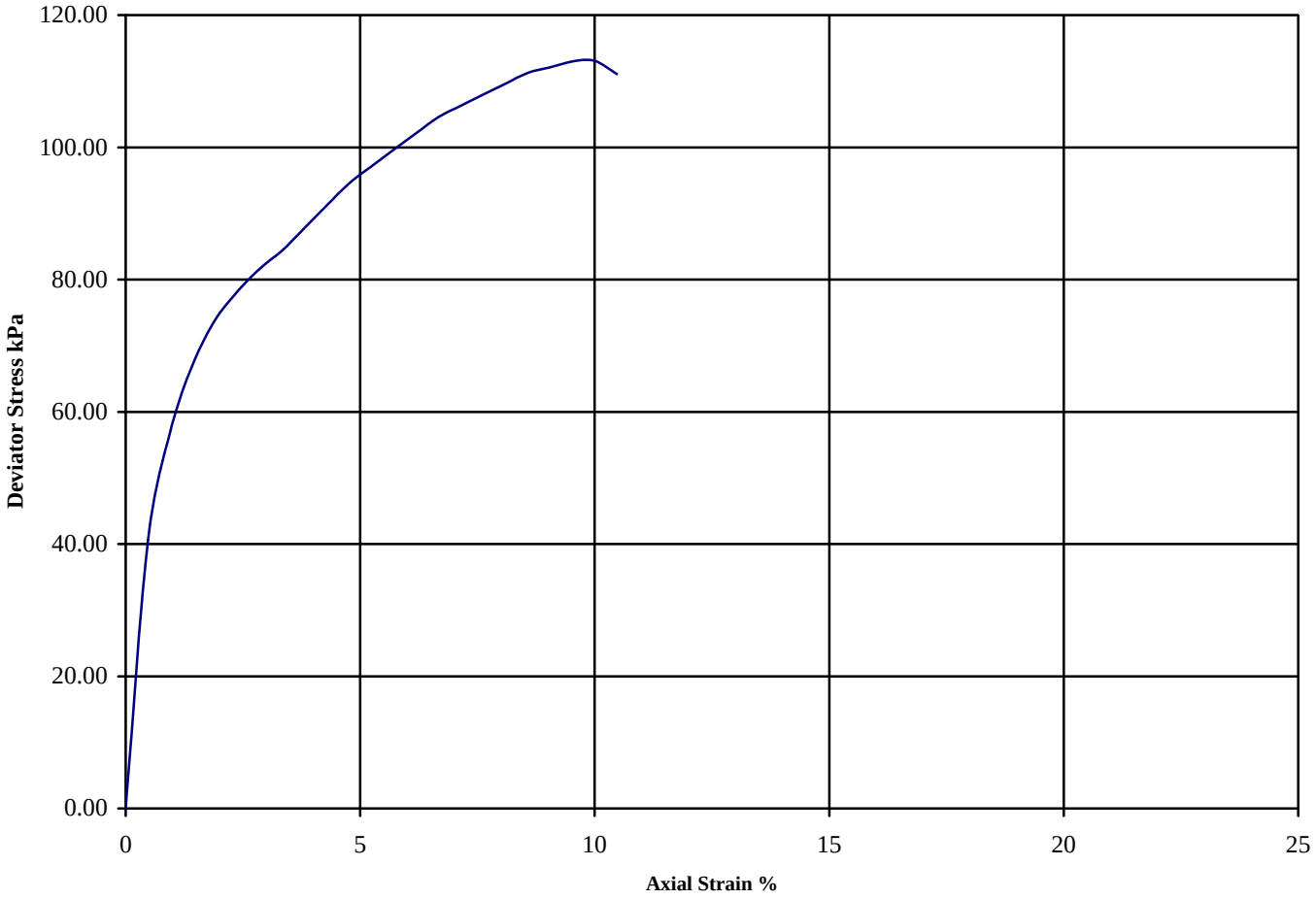
Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

B.S. 1377 : Part7 : Clause 8 : 1990

Hole Number: BH6 **Depth (m):** 7.00-7.45

Sample Number: 13 **Sample Type:** U



Diameter (mm):		102.0	Height (mm):		210.0	Test:	100 mm Single Stage. Undisturbed		
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Diviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Remarks
A	16	2.10	1.82	75	113	57	10.0	Brittle	Sample taken from top of tube Rate of strain = 1.9 %/min Latex Membrane used 0.2 mm thickness, Correction applied 0.35 kPa Single stage due to early brittle failure.

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NORTH BIERLEY WWTW.

Contract No: PSL11/1223

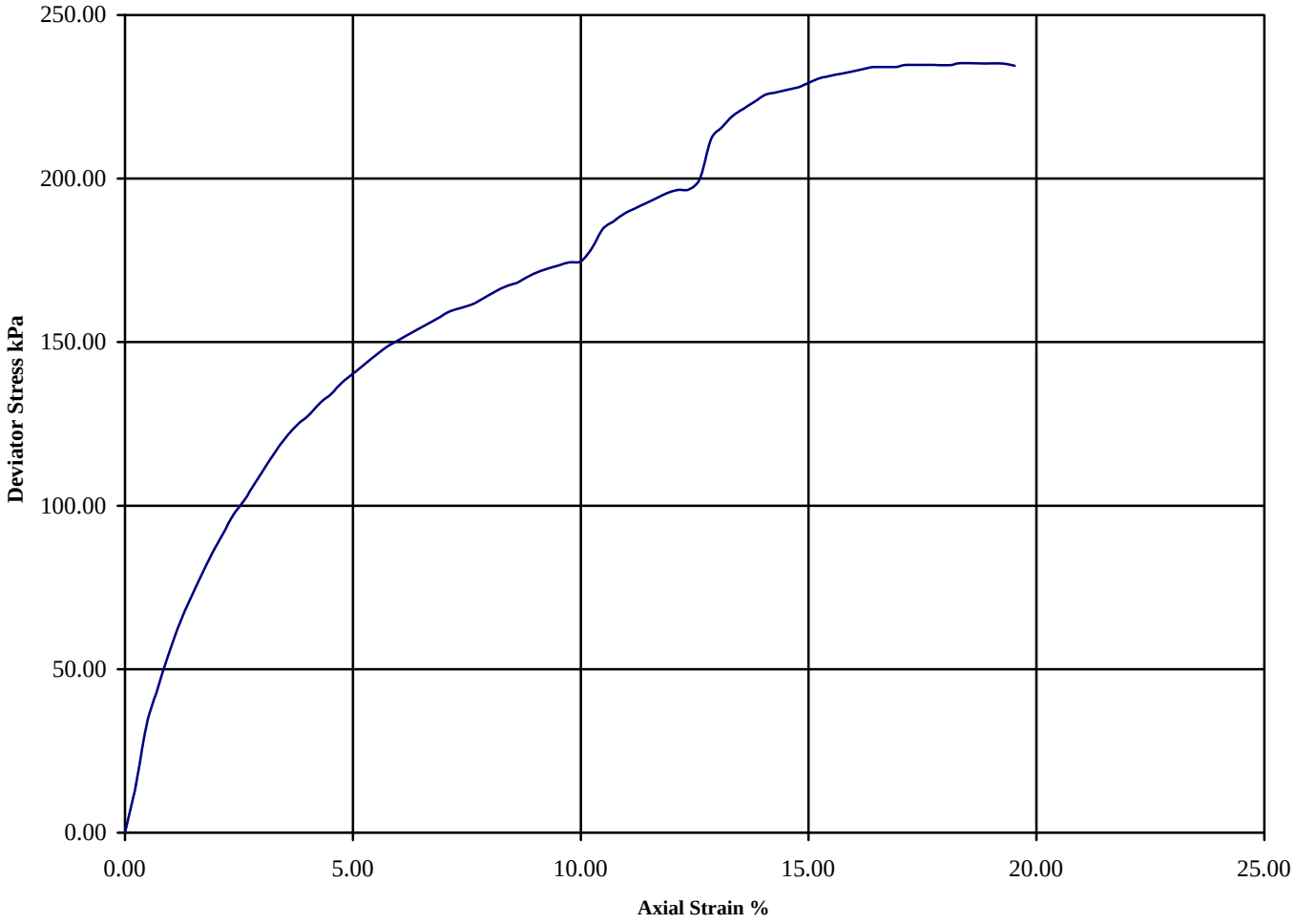
Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

B.S. 1377 : Part7 : Clause 9 : 1990

Hole Number: BH6 **Depth (m):** 8.50-8.95

Sample Number: 17 **Sample Type:** U



Diameter (mm):		102	Height (mm):		210	Test:	100mm Multistage		
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Diviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Remarks
A	22	2.02	1.66	80	175	87	10.0	Plastic	Sample taken from top of tube Rate of strain = 1.9 %/min Latex Membrane used 0.2 mm thickness Membrane Correction applied (kPa) 0.35 0.35 0.34
				160	197	98	12.4		See summary of soil descriptions.
				320	235	118	18.3		

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	09/06/11		09/06/11

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NORTH BIERLEY WWTW.

Contract No: PSL11/1223

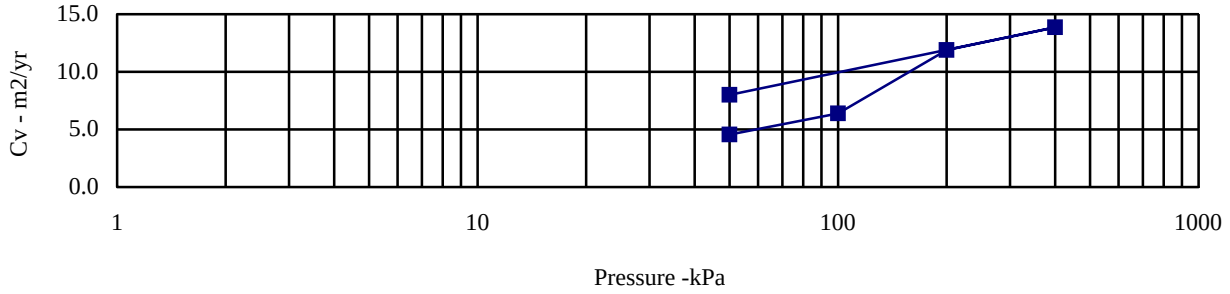
One Dimensional Consolidation Properties

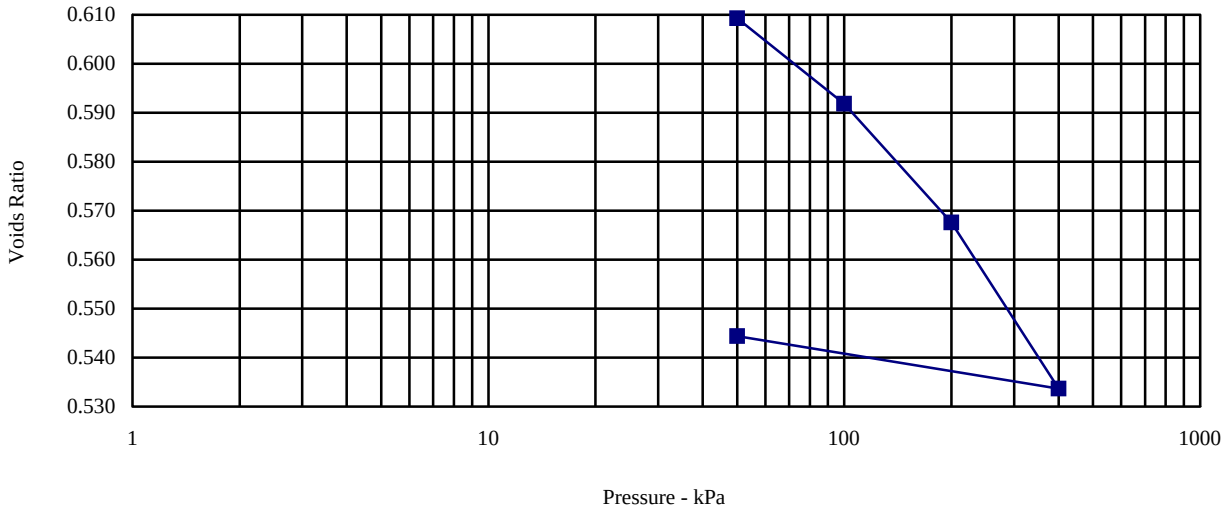
BS 1377: Part 5: 1990

Hole Number: BH7 **Depth (m): 1.20-1.65**

Sample Number: 3 **Sample Type: U**

Initial Conditions		Pressure Range kPa			Mv m2/MN	Cv m2/yr	Specimen location within tube:	Top
Moisture Content (%):	22							
Bulk Density (Mg/m3):	1.98	0	-	50	0.261	4.547	Method used to	
Dry Density (Mg/m3):	1.63	50	-	100	0.217	6.387	determine CV:	t90
Voids Ratio:	0.6306	100	-	200	0.152	11.887	Nominal temperature	
Degree of saturation:	90.9	200	-	400	0.108	13.848	during test ' C:	20
Height (mm):	19.9	400	-	50	0.020	7.990	Remarks:	
Diameter (mm)	75.19						See summary of soils description.	
Particle Density (Mg/m3):	2.65							
Assumed								





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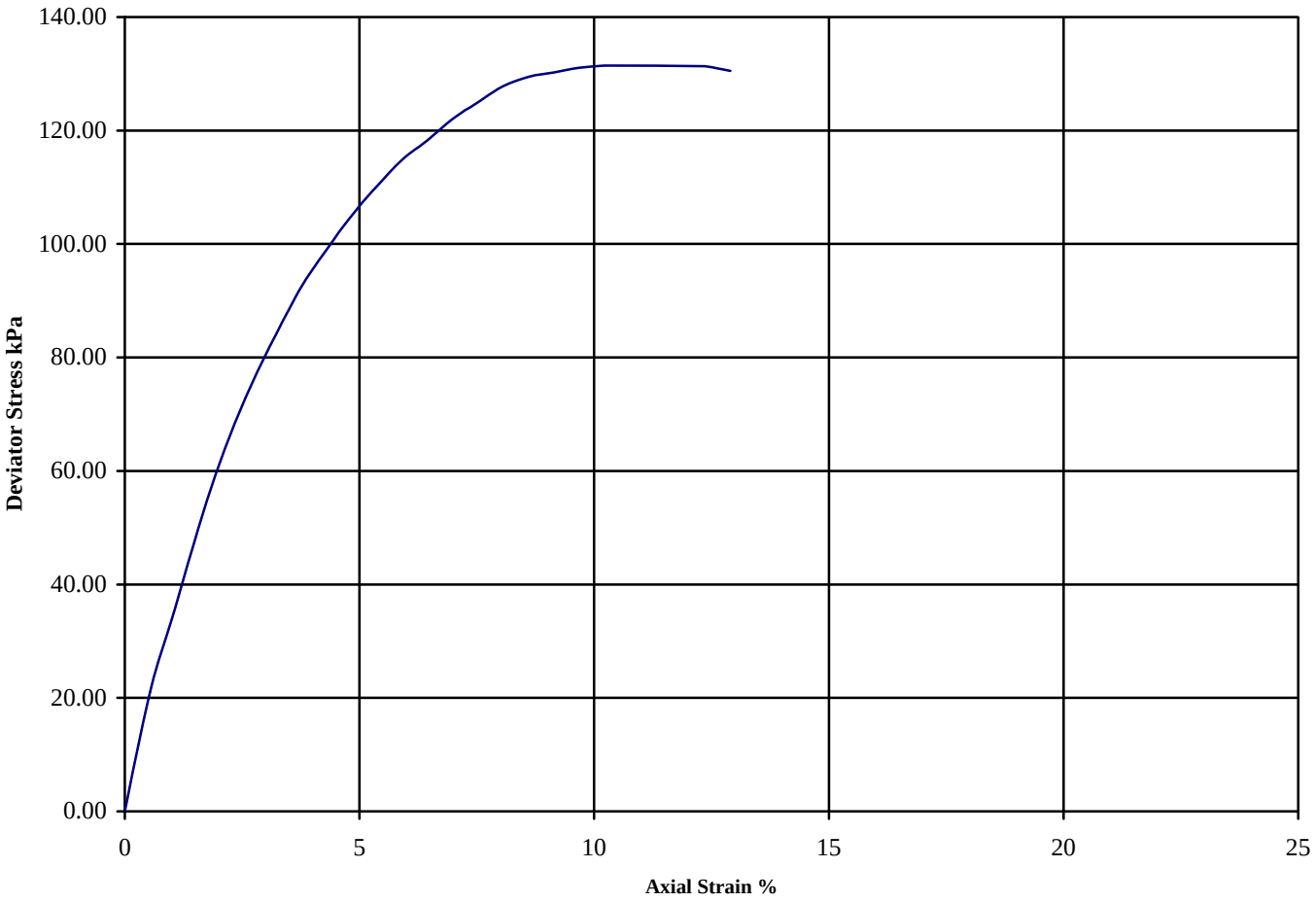
Undrained Shear Strength in Triaxial Compression

without measurement of Pore Pressure

B.S. 1377 : Part7 : Clause 8 : 1990

Hole Number: BH7 **Depth (m):** 5.50-5.85

Sample Number: 15 **Sample Type:** U



Diameter (mm):		102.0	Height (mm):		186.0	Test:	100 mm Single Stage. Undisturbed		
Specimen	Moisture Content (%)	Bulk Density (Mg/m3)	Dry Density (Mg/m3)	Cell Pressure (kPa) θ_3	Corr. Max. Diviator Stress (kPa) $(\theta_1-\theta_3)_f$	Shear Strength Cu (kPa) $^1/_2(\theta_1-\theta_3)_f$	Failure Strain (%)	Mode of Failure	Remarks
A	19	2.04	1.71	50	131	66	10.2	Brittle	Sample taken from top of tube Rate of strain = 2.1 %/min Latex Membrane used 0.2 mm thickness, Correction applied 0.35 kPa Single stage due to early brittle failure.

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	09/06/11		09/06/11

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NORTH BIERLEY WWTW.

Contract No: PSL11/1223

SUMMARY OF LABORATORY HAND VANE TESTS

Hole Number	Sample Number	Sample Type	Depth m	Moisture Content %	Shear Strength kPa	Description
BH4	12	U	6.50-6.95	23	84	Stiff dark brown gravelly sandy CLAY.
BH6	20	U	9.50-9.85	15	57	Firm brown very gravelly very sandy CLAY.
BH7	6	U	2.20-2.65	20	92	Brown mottled grey gravelly sandy CLAY.

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	09/06/11		09/06/11		09/06/11

NORTH BIERLEY WWTW.

Contract No: PSL11/1223

Client Ref: SH10534

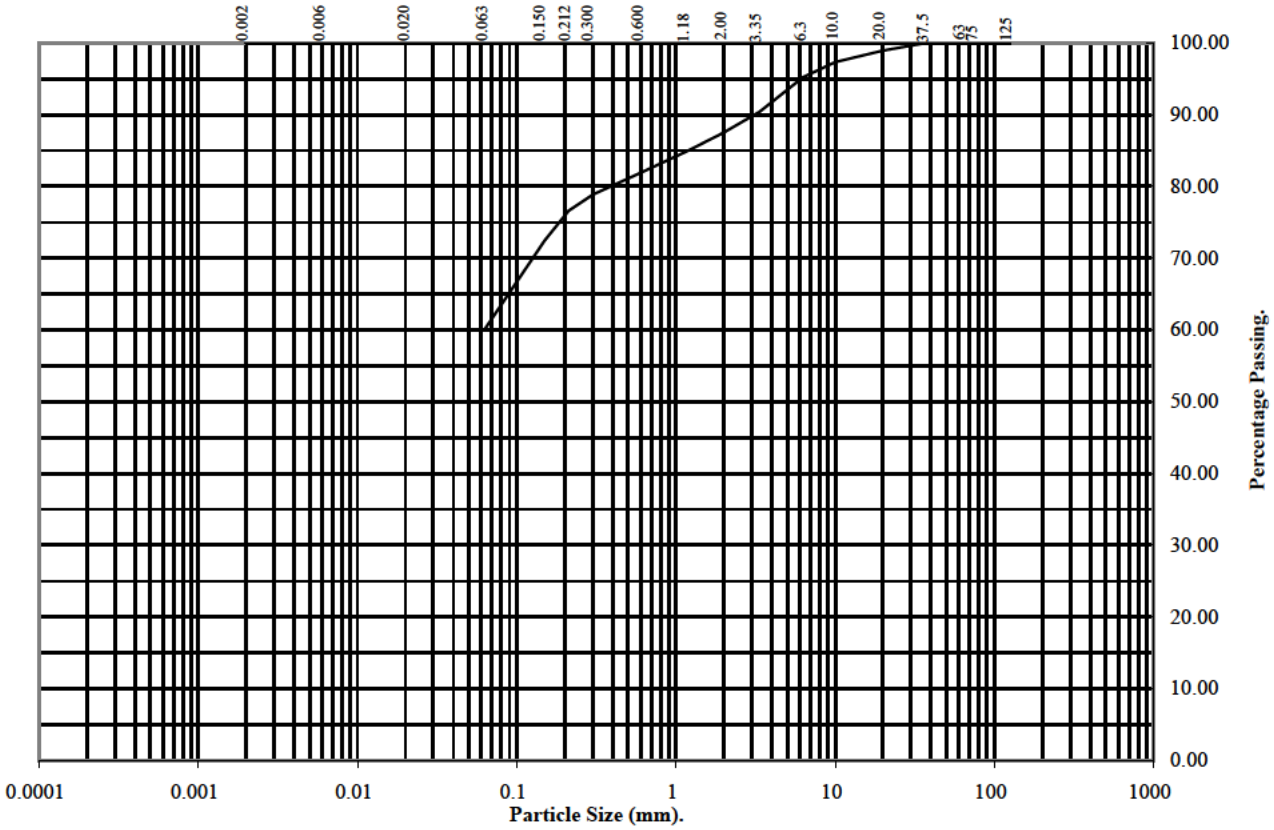
Particle Size Distribution Test

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: TP102 **Depth (m):** 1.20

Sample Number: **Sample Type:** B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	99
10	97
6.3	95
3.35	90
2	88
1.18	85
0.6	82
0.3	79
0.212	77
0.15	72
0.063	60

Soil Fraction	Total Percentage
Cobbles	0
Gravel	12
Sand	28
Silt / Clay	60

Remarks:
See summary of soil descriptions.

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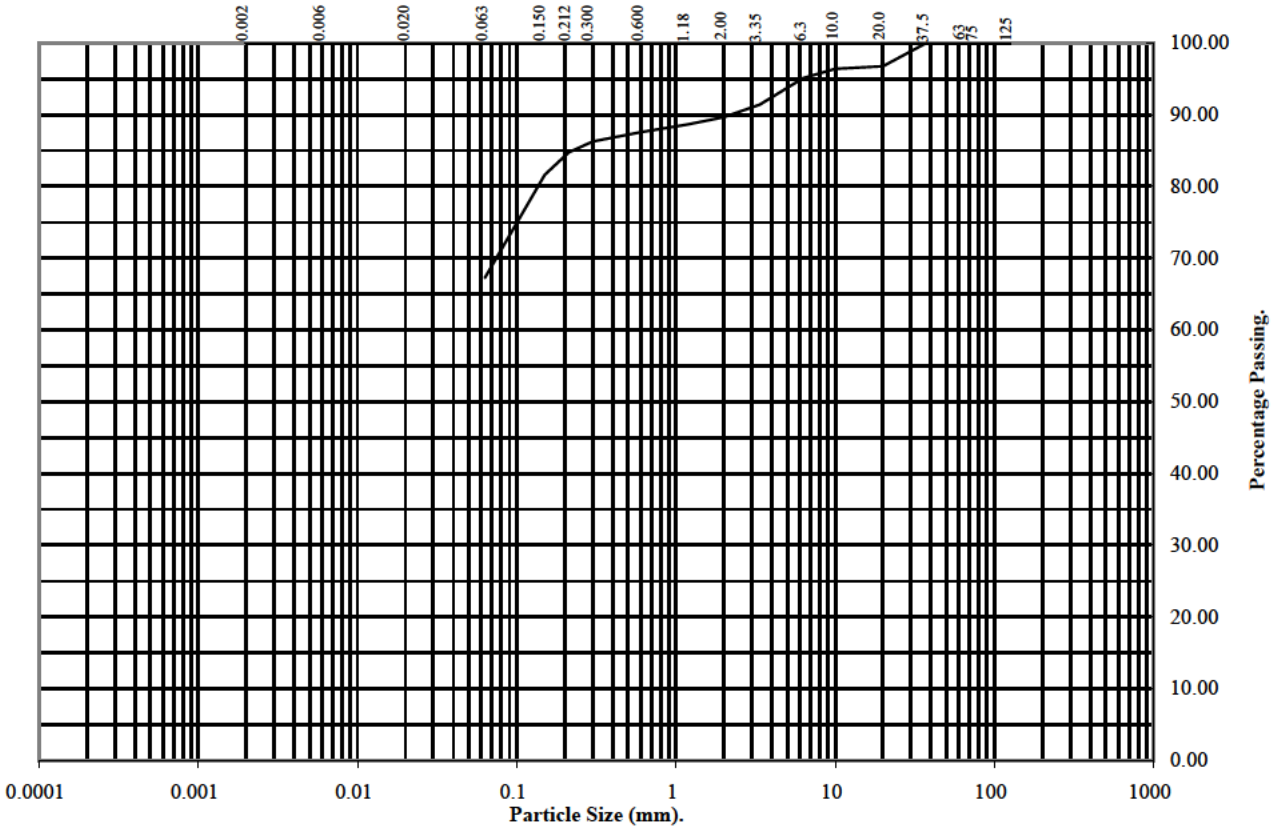
Particle Size Distribution Test

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: TP108 **Depth (m):** 0.90

Sample Number: **Sample Type:** B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	100
20	97
10	96
6.3	95
3.35	91
2	90
1.18	89
0.6	88
0.3	86
0.212	85
0.15	82
0.063	67

Soil Fraction	Total Percentage
Cobbles	0
Gravel	10
Sand	23
Silt / Clay	67

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
RC	09/06/11	RC	09/06/11

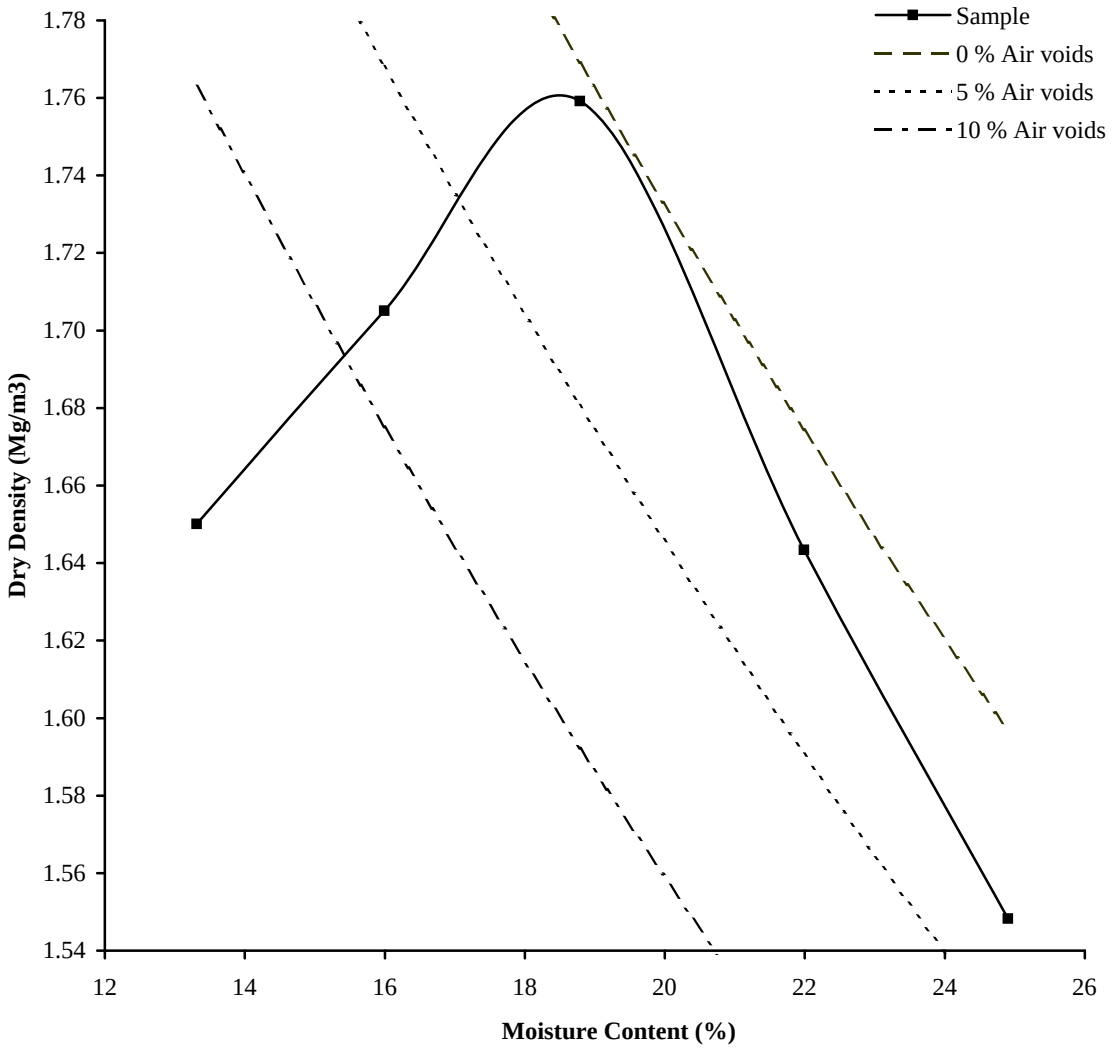
PSL Professional Soils Laboratory	NORTH BIERLEY WWTW.	Contract No.: PSL11/1223

Dry Density/Moisture Content Relationship Test

BS 1377 : Part 4 : 1990

Hole Number: **TP111** **Depth (m) :** **2.20**

Sample Number: **Sample Type:** **B**



Initial Moisture Content:	19	Method of Compaction	2.5kg / Separate Sample	
Particle Density (Mg/m3):	2.65	Assumed	Material Retained on 37.5 mm Test Sieve (%):	0
Maximum Dry Density (Mg/m3):		1.76	Material Retained on 20.0 mm Test Sieve (%):	0
Optimum Moisture Content (%):		19		
Remarks	See Summary of Soil Descriptions.			

Checked By	Date	Approved By	Date
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PSL Professional Soils Laboratory	**NORTH BIERLEY WWTW.**	**Contract No. PSL11/1223**

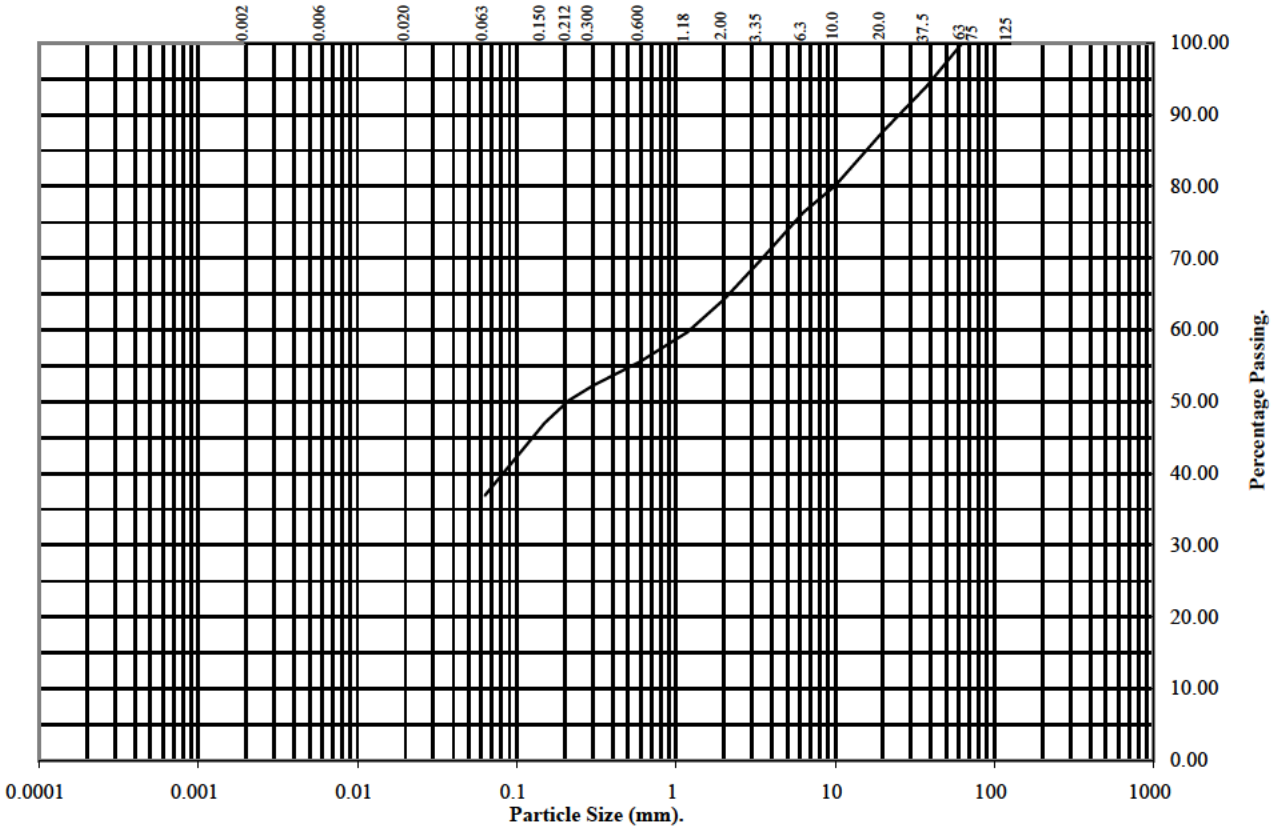
Particle Size Distribution Test

BS1377 : Part 2 : 1990

Wet Sieve, Clause 9.2

Hole Number: TP114 **Depth (m):** 1.10

Sample Number: **Sample Type:** B



BS Test Sieve	Percentage Passing
125	100
75	100
63	100
37.5	94
20	88
10	80
6.3	76
3.35	70
2	64
1.18	60
0.6	56
0.3	52
0.212	50
0.15	47
0.063	37

Soil Fraction	Total Percentage
Cobbles	0
Gravel	36
Sand	27
Silt / Clay	37

Remarks:
See summary of soil descriptions.

Checked By	Date	Approved By	Date
RC	09/06/11	RC	09/06/11

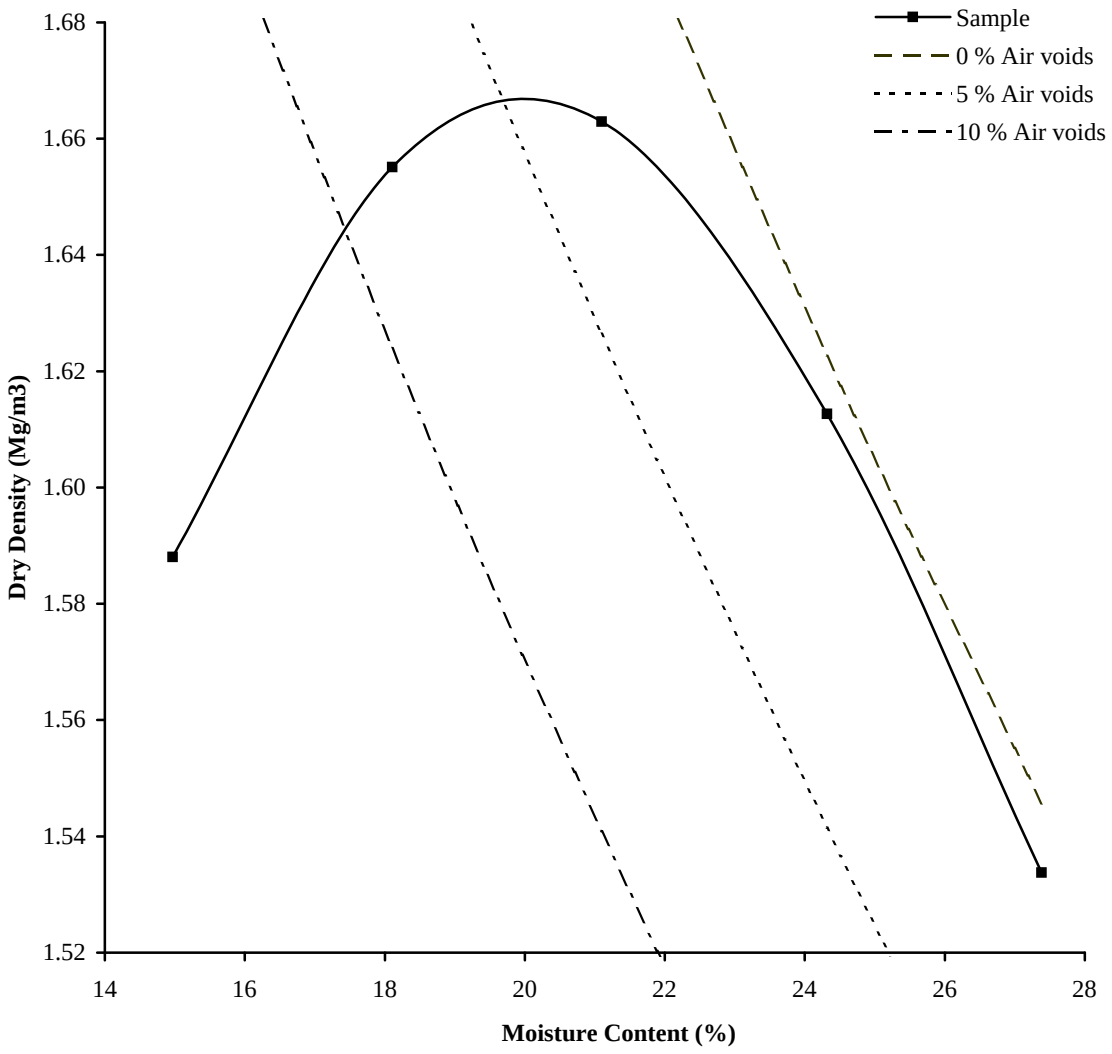
PSL Professional Soils Laboratory	NORTH BIERLEY WWTW.	Contract No.: PSL11/1223

Dry Density/Moisture Content Relationship Test

BS 1377 : Part 4 : 1990

Hole Number: **TP118** **Depth (m) :** **1.40**

Sample Number: **Sample Type:** **B**



Initial Moisture Content:	21	Method of Compaction	2.5kg / Separate Sample	
Particle Density (Mg/m3):	2.68	Assumed	Material Retained on 37.5 mm Test Sieve (%):	1
Maximum Dry Density (Mg/m3):		1.66	Material Retained on 20.0 mm Test Sieve (%):	2
Optimum Moisture Content (%):		20		
Remarks	See Summary of Soil Descriptions.			

Checked By	Date	Approved By	Date
RC	09/06/11	RC	09/06/11

PSL Professional Soils Laboratory	**NORTH BIERLEY WWTW.**	**Contract No. PSL11/1223**

APPENDIX IX

Soakaway Results

SOAKAWAY RESULTS

Job Number: **SH10534**

Job Name: **North Bierley WWTW**

Assessor: **M Kelly**

Date: **23rd May 2011**

TP101		
Time elapsed (mins)	Depth (m)	Reduction (m)
1	2.45	0.00
2	2.5	0.05
3	2.6	0.15
4	2.69	0.24
5	2.77	0.32
6	2.84	0.39
7	2.9	0.45
8	2.95	0.50

TP103		
Time elapsed (mins)	Depth (m)	Reduction (m)
1	2.45	0.00
2	2.52	0.07
3	2.59	0.14
4	2.65	0.20
5	2.71	0.26
6	2.77	0.32
7	2.82	0.37
8	2.87	0.42
9	2.92	0.47
10	2.95	0.50

TP105		
Time elapsed (mins)	Depth (m)	Reduction (m)
1	1.55	0.00
5	1.55	0.00
10	1.55	0.00
30	1.55	0.00
60	1.55	0.00
90	1.55	0.00
120	1.55	0.00
150	1.55	0.00
180	1.55	0.00
210	1.55	0.00
240	1.55	0.00
270	1.55	0.00

TP108		
Time elapsed (mins)	Depth (m)	Reduction (m)
1	1.05	0.00
5	1.05	0.00
10	1.05	0.00
30	1.05	0.00
60	1.05	0.00
90	1.05	0.00
120	1.05	0.00
150	1.05	0.00
180	1.05	0.00
210	1.05	0.00
240	1.05	0.00
270	1.05	0.00

TP113		
Time elapsed (mins)	Depth (m)	Reduction (m)
1	0.65	0.00
5	0.65	0.00
10	0.65	0.00
30	0.65	0.00
60	0.65	0.00
90	0.65	0.00
120	0.65	0.00
150	0.65	0.00
180	0.65	0.00
210	0.65	0.00
240	0.65	0.00
270	0.65	0.00

	Length	Width	Depth		Vp75-25	ap50	tp75-25	Soil Infiltration Rate (m/s)
TP101	1.6	0.45	3.2		0.36	2.77	8	2.708E-04
TP103	1.75	0.45	3.2		0.39	2.99	10	2.197E-04
TP105	1.3	0.45	2.3		0.29	2.34	n/a	FAILED
TP108	1.6	0.45	1.8		0.36	2.77	n/a	FAILED
TP113	1.1	0.45	1.4		0.25	2.05	n/a	FAILED

APPENDIX X

Gas Monitoring Results

RECORD OF MEASUREMENTS FOR GAS MONITORING BOREHOLES

Client Name: KeyLand Developments

Date of Sampling: 19/05/2011

Site Name: North Bierley

Job Number: SH10534

Borehole Ref.	CH_4 % by Volume	CO_2 % by Volume	O_2 % by Volume	Flow Rate l/hr	Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m bgl)
WS110	0.0	0.3	8.1	-0.1	Acc.	1005	-0.17	3.01
WS102	0.0	0.6	18.0	+0.1	Acc.	1005	-0.32	4.58
WS107	0.0	0.3	18.2	-0.2	Acc.	1005	-0.28	Dry
BH01	0.0	0.0	18.7	0.0	Acc.	1005	-0.16	Dry
WS104	0.0	0.0	18.5	+0.4	Acc.	1005	-0.26	Dry
WS105	0.0	1.3	14.6	+0.1	Acc.	1005	-0.29	2.17
					Acc.			
					Acc.			
					Acc.			
					Acc.			
					Acc.			

Atmospheric Pressure: As indicated

Instrument Used: Infrared GA 2000

Pressure Trend: Steady

Sample Type: As indicated

Weather: Dry, overcast, warm

Operator: J Lymer

Notes:	

RECORD OF MEASUREMENTS FOR GAS MONITORING BOREHOLES

Client Name: KeyLand Developments

Date of Sampling: 01/06/2011

Site Name: North Bierley

Job Number: SH10534

Borehole Ref.	CH_4 % by Volume	CO_2 % by Volume	O_2 % by Volume	Flow Rate l/hr	Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m bgl)
BH1	0.0	0.0	18.5	-0.7	Acc.	1014	-0.01	DRY
BH5	0.0	0.2	18.5	-0.3	Acc.	1014	-0.04	8.42
BH6	0.0	0.3	18.6	0.0	Acc.	1014	-0.29	9.56
BH7	0.0	0.0	19.3	-0.2	Acc.	1013	-0.05	DRY
WS102	0.0	0.1	18.4	0.1	Acc.	1014	-0.07	4.90
WS104	0.0	2.0	16.5	-0.4	Acc.	1014	-0.01	DRY
WS105	0.0	0.0	19.2	-0.5	Acc.	1014	-0.01	2.24
WS107	0.0	0.0	18.6	-0.5	Acc.	1014	-0.07	DRY
WS110	0.0	0.0	18.5	-0.1	Acc.	1015	-0.13	4.5

Atmospheric Pressure: As indicated

Instrument Used: Infrared GA 2000

Pressure Trend: Fluctuating

Sample Type: As indicated

Weather: Warm and sunny

Operator: J A Shaw

Notes:	

RECORD OF MEASUREMENTS FOR GAS MONITORING BOREHOLES

Client Name: KeyLand Developments

Date of Sampling: 22/07/2011

Site Name: North Bierley

Job Number: SH10534

Borehole Ref.	CH_4 % by Volume	CO_2 % by Volume	O_2 % by Volume	Flow Rate l/hr	Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m bgl)
BH1	0.0	0.3	19.7	0.0	Acc.	1007	+0.01	DRY
BH5	0.0	1.1	17.4	0.0	Acc.	1007	+0.12	8.942
BH6	0.0	2.3	16.5	0.1	Acc.	1007	+0.16	9.600
BH7	0.0	1.4	17.1	0.0	Acc.	1007	+0.10	DRY
WS102	0.0	0.4	19.7	0.0	Acc.	1007	+0.04	4.800
WS104	0.0	3.7	15.5	0.1	Acc.	1008	+0.05	DRY
WS105	0.0	1.5	11.8	0.0	Acc.	1008	+0.06	2.095
WS107	0.0	0.9	19.3	0.1	Acc.	1007	+0.01	DRY
WS110	0.0	1.3	18.4	0.1	Acc.	1007	+0.02	3.21

Atmospheric Pressure: As indicated

Instrument Used: Infrared GA 2000

Pressure Trend: Fluctuating

Sample Type: As indicated

Weather: Cloudy and warm

Operator: M Kelly

Notes:	

RECORD OF MEASUREMENTS FOR GAS MONITORING BOREHOLES

Client Name: KeyLand Developments

Date of Sampling: 03/04/2012

Site Name: North Bierley

Job Number: SH10534

Borehole Ref.	CH_4 % by Volume	CO_2 % by Volume	O_2 % by Volume	Flow Rate l/hr	Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (Depth to Base) (m bgl)
BH1	0.0	3.4	11.0	0.0	Acc.	989	+0.19	DRY (6.02)
BH5	12.5	0.6	13.0	0.0	Acc.	990	-0.14	7.727 (9.99)
BH6	0.0	3.4	13.5	0.1	Acc.	990	-0.07	9.070 (10.04)
BH7	1.6	0.0	19.8	0.1	Acc.	987	-0.04	DRY (6.97)
WS102	0.0	1.2	19.0	0.0	Acc.	989	-0.17	DRY (4.91)
WS104	0.0	2.6	14.7	0.1	Acc.	990	-0.08	DRY (4.87)
WS105	0.0	2.4	14.1	0.0	Acc.	991	-0.01	1.608 (3.92)
WS107	0.0	1.6	17.7	0.0	Acc.	987	-0.06	DRY (4.90)
WS110	UNABLE TO ACCESS							

Atmospheric Pressure: As indicated

Instrument Used: Infrared GA 2000

Pressure Trend: Fluctuating

Sample Type: As indicated

Weather: Cloudy and warm

Operator: M Kelly

Notes:	

RECORD OF MEASUREMENTS FOR GAS MONITORING BOREHOLES

Client Name: KeyLand Developments

Date of Sampling: 20/04/2012

Site Name: North Bierley

Job Number: SH10534

Borehole Ref.	CH_4 % by Volume	CO_2 % by Volume	O_2 % by Volume	Flow Rate l/hr	Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (m bgl)
BH1	0.0	3.1	11.9	0.2	Acc.	980	-0.03	DRY
BH5	34.6	1.2	4.3	0.2	Acc.	981	-0.05	7.49
BH6	0.0	1.0	19.8	0.1	Acc.	981	-0.05	8.50
BH7	0.0	0.2	20.3	0.3	Acc.	978	-0.07	5.13
WS102	0.0	0.2	19.8	0.0	Acc.	980	-0.03	2.04
WS104	0.0	0.2	8.1	-0.2	Acc.	981	-0.05	DRY
WS105	0.0	1.3	12.8	-0.2	Acc.	981	-0.05	DRY
WS107	0.0	0.8	15.6	0.3	Acc.	980	-0.03	3.50
WS110	UNABLE TO ACCESS							

Atmospheric Pressure: As indicated

Instrument Used: Infrared GA 2000

Pressure Trend: Fluctuating

Sample Type: As indicated

Weather: Windy, slight rain

Operator: J A Shaw

Notes:	

RECORD OF MEASUREMENTS FOR GAS MONITORING BOREHOLES

Client Name: KeyLand Developments

Date of Sampling: 17/05/2012

Site Name: North Bierley

Job Number: SH10534

Borehole Ref.	CH_4 % by Volume	CO_2 % by Volume	O_2 % by Volume	Flow Rate l/hr	Sample Type	Barometric Pressure (mb)	Relative Pressure (mb)	Depth to Water (Depth to Base) (m bgl)
BH1	0.0	1.3	19.0	0.1	Acc.	1008	+1.08	DRY
BH5	20.3	3.0	0.0	0.0	Acc.	1009	-0.27	7.406
BH6	0.0.	3.3	13.7	0.0	Acc.	1009	-0.55	8.695
BH7	0.0	0.7	19.1	0.1	Acc.	1006	-0.10	5.373
WS102	0.0	1.4	18.5	0.1	Acc.	1008	-0.32	DRY
WS104	0.0	2.7	14.5	0.1	Acc.	1008	-0.24	DRY
WS105	0.0	2.2	14.7	0.0	Acc.	1009	-0.08	1.481
WS107	0.0	2.0	17.0	0.1	Acc.	1009	-0.16	DRY
WS110	UNABLE TO ACCESS							

Atmospheric Pressure: As indicated

Instrument Used: Infrared GA 2000

Pressure Trend: Falling

Sample Type: As indicated

Weather: Light rain, cool

Operator: M Kelly

Notes:	

D R A W I N G S